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ABSTRACT

If methods of implementing career education are to be effective they must reflect not only an understanding of how career development occurs but also a knowledge of sound ideas for stimulating career exploration in young people. Comprehensive in scope, this guide to occupational orientation reflects a broad synthesis of resources and activities. The content includes cross-referenced materials correlated with information contained in the student's edition. Included in this, the teacher's edition, are: (1) an introduction explaining the organization of the publication and how it is to be used, (2) answers to general questions concerning career development, and (3) a copy of the entire student edition of the book. The 17 appendixes provide additional resource data on the world of work. The student edition provides a central core around which class activities may be structured. Following background information and review questions, the units contain a number of suggested classroom learning possibilities. The student's edition of the book is available as ED 057 235. (Author/SN)

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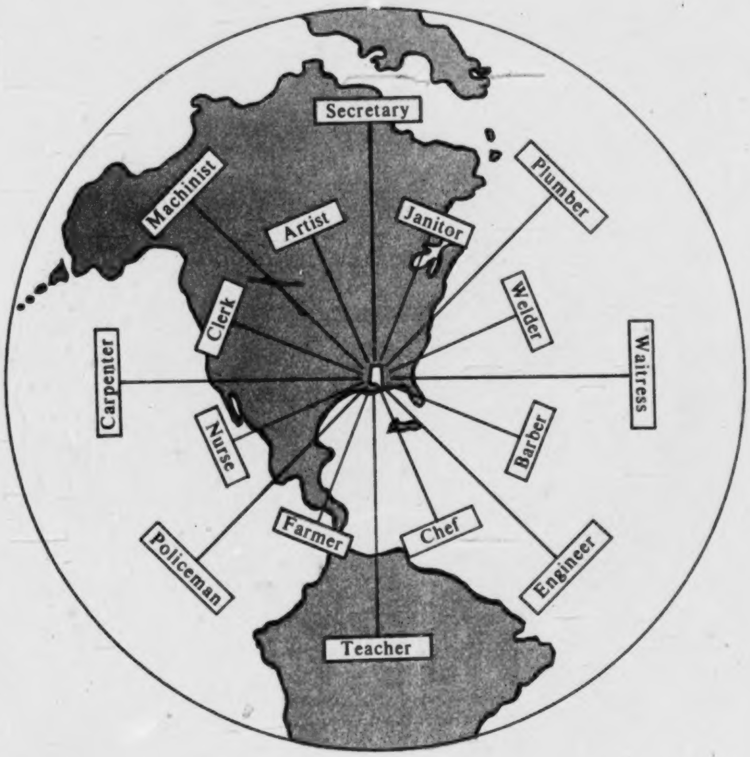
TEACHER'S EDITION

OCCUPATIONAL ORIENTATION

An Introduction to the World of Work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OCCUPATIONAL ORIENTATION

An Introduction to the World of Work

Teacher's Edition

by

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Curriculum Coordinator
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Mississippi State University

Student's Edition

by

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1973

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Foreword

Career education involves both a point of view and a set of complex developmental processes. If career education is to be a viable force in American education, better stategies for achieving its integration within the total educational system must be developed. Such develoment must ultimately find its expression as concepts-in-operation, shaping the experiences of students at the local school level.

If methods of implementing career education are to be effective, it would seem that such methods must reflect both an understanding of how career development occurs and a knowledge of sound ideas for stimulating career exploration among young people. It is primarily with the latter in mind that this Teacher's Edition of **Occupational Orientation** has been developed by the staff of the Curriculum Coordinating Unit (CCU).

As a guide to and a collection of materials for use in Occupational Orientation/Career Education classes, this publication is a masterpiece, reflecting a broad synthesis of resources and ideas. The format of the publication with cross-referencing of information and correlation of new material within the original Student's Edition makes it easy to use. Its utility is credit to the CCU staff as well as a potential boon to its users.

It should be understood, however, that the key to effective utilization of this guide is the individual teacher who must ultimately bring its information and ideas to life. In spite of the comprehensive nature of this publication, it is nothing more than a new tool. It will not alter the lives of students unless utilized within the context of creative planning and management essential to the success of any guidance or learning activity.

The Occupational Orientation teachers of Mississippi now have at their fingertips the basic resource publication they have needed and asked for since the inception of the Occupational Orientation Program. They have a major tool which can well pave the way toward innovations in the dissemination of career information and the improvement of occupational orientation experiences.

John D. Alcorn, Chairman
Counseling and Guidance Department
University of Southern Mississippi

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Introduction To Teacher's Edition

How may teachers best utilize this publication?

Teachers should realize that this publication is only a guide and is not in any way intended to prescribe a rigid or limited course of action for the teacher of occupational orientation. Hopefully, teachers will find resources and activities in this publication which will be helpful in conducting classes. However, in the final analysis, the enthusiasm and dedication of the classroom teacher are the most important factors in the success of any program. With this thought in mind, it is hoped that teachers using this manual will feel free to add, delete, or modify materials and suggestions in order to best suit their individual situations.

How is this publication organized?

The Student's Edition has been reproduced and supplementary information has been added in a different style of type to assist the teacher in guiding students in self-exploration and investigation of the world of work.

Pages in the Teacher's Edition are numbered consecutively with the letter "T" placed before each page number. Reprinted pages of the Student's Edition retain their original page numbers in addition to the Teacher's Edition page numbers.

An effort has been made at the beginning of the publication to answer some of the questions frequently asked concerning career development and its relationship to courses in occupational orientation.

In the Teacher's Edition, the following additions have been made to each chapter:

Goal - A short statement of the desired outcome of instruction is given for each chapter.

Review Questions - Each review question is followed by the page number where the answer may be found. The answer is shaded in the text and identified by its corresponding review question number.

Suggested Activities - Ideas for implementing suggested activities are given immediately after the suggestion. For the sake of economy, many recommendations concerning implementation of suggested activities have been placed in Appendixes at the end of the publication. For example, reference is made to Appendix D whenever the suggested activity concerns the utilization of resource persons.

Additional Activities - Supplementary activities such as attitude and interest questionnaires, skits, situational problems, and case studies are provided.

Suggested Review Survey - A ten-question survey is included for each chapter. In a class of this nature, it is probable that development of positive attitudes about self and the world of work is more important than specific knowledge about occupations. The teacher is encouraged to use this survey as a teaching instrument rather than as a grading device.

Resources - Resources which pertain primarily to a specific chapter are listed at the end of that chapter. Each resource is coded with a number and a letter. This code refers the teacher to Appendix Q and enables him to quickly find the organizational source and address.

For example, to order the pamphlet, "Automobile Mechanic," 112b, turn to Appendix Q, number 112 and find the ordering address. The letter "b" shows the title cross-referenced under the address.

For the teacher's convenience, all materials which may be ordered from any one source are listed together. The teacher may want to order free materials as early as possible in the school year to insure delivery. Free films are often in short supply and although most suppliers recommend at least two months advance notice, the teacher may receive better service by ordering at an even earlier date.

Appendixes - Materials and activities which may be useful throughout the publication are listed under Appendixes D through Q.

The following additional information will be found in Chapters VII through XIV.

Coding System — OEK (Occupational Exploration Kit) and DOT (Dictionary of Occupational Titles) - Each occupation listed in chapters VII through XIV representing Roe's major "Interest Groups," is coded with OEK and DOT numbers. These codes should help the teacher and students locate additional information about occupations. OEK numbers refer to briefs contained in the **Occupational Exploration Kit** published by Science Research Associates. DOT numbers may be used to identify briefs published by Careers, Inc. and Chronicle Guidance Publications. Government publications such as the **Dictionary of Occupational Titles** and the **Occupational Outlook Handbook** also use the DOT classification system.

Additional Occupations - Occupational Exploration Kit — briefs have been listed at the end of Chapters VII through XIV. These briefs refer to occupations which have not been included in the student text.

Questions Concerning Career Development

How do students make career choices?

People have different ideas as to how students choose occupations. Some believe that chance and accident are the most important factors influencing career choice, that a person's social and economic background, physical and mental limitations, luck, and other factors over which the individual has little control, play a very large role in determining the availability of occupations.

Others feel that career choice is not a rational or logical process but an outgrowth of largely unconscious desires and impulses. For instance, one might become a prize fighter because of an unconscious desire to hurt others.

Many think that individuals choose their careers by matching their interests and abilities to various occupations, that career choice is therefore a systematic and logical process.

There seems to be an element of truth in each of the approaches explaining how career choices are made. However, the most popular and perhaps the most logical approach to career choice is the developmental concept. According to the developmental concept, individuals usually choose occupations which seem to compare best with images they have of themselves.

Also, career choice is thought to be a process which occurs over a long period of time rather than at a specific place and time. Many advocates of developmental vocational choice believe that students go through certain stages in making career choices. Ginzberg, for instance, divides a person's decision-making into three periods - the fantasy stage, the tentative stage, and the realistic stage. In fantasy choices, which usually take place before eleven years of age, a child believes that he can become anything he wants to become. His choices are arbitrary and often unrealistic. The child who expresses a desire to become a fireman, movie star, or professional athlete at an early age is probably making a fantasy choice.

In tentative choices, usually made by young people between the ages of eleven and seventeen, the student begins to consider his interests, abilities, and values in considering various vocational areas. At this stage the student is usually not ready to make a definite or final career choice but is finding out more about himself and the requirements of various jobs. The majority of the students in occupational orientation classes are probably in the tentative stage of their vocational development.

Realistic choices usually take place between age seventeen and early adulthood. Young people during this stage are usually able to effect a compromise between their interests, abilities, and values and the available opportunities.

Is occupational orientation designed to encourage students to decide upon a definite career?

Occupational orientation courses should enable a student to better understand himself and the world of work rather than encourage a premature vocational choice. As was mentioned before, most students will be in the tentative stage of their vocational development. They are beginning to evaluate some of their abilities, interests, and values. The teacher should assist students in this evaluation and give them an opportunity to learn about the wide variety of occupations which exist, including requirements and chances of advancement.

Who influences a student's vocational choice?

Since a person's career choice is in the process of being developed over a long period of time, it seems reasonable that everyone with whom the student has contact exercises some influence upon the student's career choice. Teachers, counselors, school administrators, parents, friends, relatives, and others all fall into this category.

The teacher of occupational orientation and others who significantly influence students should join forces in helping them explore their opportunities for success and happiness in a variety of occupations.

How may the occupational orientation teacher and subject matter teachers work together in helping students learn more about careers and develop positive views of the world of work?

Teachers have an excellent opportunity to help students see the relationship of their subjects to the world of work. Students who understand this relationship may find classes to be more meaningful, thus making the teacher's job a little easier. Competencies in various subjects are required for success in different fields. For instance, an engineer must have a good math background, and a radio announcer should be able to speak well and use correct English.

Many teachers are already doing an excellent job in this area but perhaps could be even more effective if they received encouragement and assistance from the occupational orientation teacher. The teacher of occupational orientation should make career materials available to other teachers for use in their classes. Students derive greater benefits as more teachers become involved in career development.

How may the occupational orientation teacher and the counselor work together in helping students learn more about careers and develop positive views of the world of work?

The occupational orientation teacher may refer students with academic, personal, or vocational concerns to the school counselor. It is impossible to separate a student's academic and personal development from his career development. Therefore, the counselor who assists a student in dealing with adademic and personal concerns, helps the student in his career development at the same time.

The counselor has special training in the administration and interpretation of tests and should be able to assist the occupational orientation teacher in determining the best way to utilize test information with students in his classes.

Hopefully, the counselor and occupational orientation teacher will work as a team in securing and sharing career information. They, as career specialists, may want to jointly plan activities such as career days and field trips.

How may the occupational orientation teacher and parents work together in helping students learn more about careers and develop positive views of the world of work?

Parents exercise a tremendous influence upon the career development of their children. Whenever time permits, parents should be invited to visit the school and discuss the career aspirations of their children. Perhaps a group meeting could be arranged for interested parents.

Unfortunately, some parents may encourage their children to go into career areas in which they may not be suited or interested. Such an approach may be satisfying to parents but may not help children in choosing an appropriate career.

Many parents may be willing to visit the classroom to discuss their occupations with students. The more involved parents become in occupational programs, the more impact these programs should have upon students.

How important are community relations and publicity in developing an occupational orientation program?

Any type of school program is stronger and more effective when it is supported by the local community. Many newspapers, radio stations, and TV stations may be willing to give publicity to career programs. Local organizations such as the Kiwanis, Rotary, Chamber of Commerce, and PTA may also be receptive to having the counselor or occupational orientation teacher tell their group about the career development program. Organizations and individuals who are informed about career programs may be willing to donate time and money.

Is there one best job for each person?

Some people believe that each person is best suited for a particular job. However, research and experience indicate that a person may be successful and happy in a variety of occupations. As society and technology change, old jobs disappear and new jobs are created. The person who believes that there is only one best job for him may be disillusioned if his job is changed or eliminated by automation. Many people change occupations three to five times during a lifetime. Students should therefore realize that they may be happy and productive in many different occupations.

How might occupational orientation courses differ from the traditional subject-centered courses?

In the past, many occupational orientation courses have not been especially meaningful to students because they have been taught as lecture courses. Students have in many instances been required to learn specific facts about occupations and repeat these facts on tests. Unfortunately, courses conducted in such a manner often have little impact upon a student's vocational development.

In as many instances as possible, the teacher should have students divide into groups for discussion and research. Groups may also be used in dramatization and role-playing. The students should be encouraged to write their own skits about areas of interest and present these to the class in impromptu dramatization. Role-playing involves students acting out the emotions and actions of themselves or others in various situations.

Courses tailored to the needs and interests of students usually result in stronger student motivation and involvement. With information doubling every seven to ten years, it is unrealistic to expect students to be able to learn about all occupations. Much of the occupational information which is valid today will be out of date by the time students enter the work market. Rather than concentrating on specific jobs, emphasis should be placed on self-understanding, attitudes toward work, and groups or clusters of occupations.

The relationship which develops between the teacher and the students seems to be just as important or perhaps more important than the actual knowledge gained about occupations. Hopefully, students will view their occupational orientation teacher as the type of person with whom they can discuss their desires, problems, and aspirations in life.

What is the best age for students to take a course in occupational orientation?

Occupational information, or any other type, is most effective if presented at a time when the student feels a need for or expresses an interest in such information. Since various needs and interests of children develop at different times and in different ways, it is impossible to designate a particular age at which certain types of occupational information and guidance are appropriate for all students.

Courses dealing with vocational development are presently being offered in grades seven through twelve throughout the country, and opinions are divided as to the best time for offering the courses. Therefore, the local school must make its own decision concerning the most appropriate grade or grades for career courses. Local school officials may want to offer their occupational orientation courses at different grade levels in order to determine the grade at which the course seems to be most helpful to students.

Courses offered in the seventh, eighth, and ninth grades have the advantage of enabling students to learn about the opportunities and requirements in a wide variety of jobs before selecting high school courses which are required for success in many of these jobs. Courses made available to students at this time may help them realize that work will become an important part of their life and that adequate preparation for work is necessary.

On the other hand, courses offered at the tenth, eleventh, and twelfth grades come at a time when students are approaching a vocational decision and perhaps are more highly motivated to learn about the world of work.

Which students would benefit from a course in occupational orientation?

All students, including those who plan to enter the work market immediately after finishing high school, those who plan to receive technical training after graduating, and those who plan to go to college, may derive benefits from a course in occupational orientation.

Students may be more highly motivated when they select a course on a voluntary basis, and certainly those who are most interested in the course should be given first choice. However, students who are required to take a course in occupational orientation may also derive many benefits.

What is the recommended enrollment for occupational orientation classes?

Whenever possible, occupational orientation classes should have an enrollment of fifteen to twenty students. Larger enrollments make many aspects of adequate supervision of classes, individualized activities, and directed self-exploration difficult.

What are the goals or desired outcomes of occupational orientation?

1. Students should be encouraged to develop a healthy attitude toward the world of work. All jobs, including those which require that a person work with his hands, are honorable and in some way contribute to society. The farmer who grows food, the truck driver who transports goods, the salesman who makes these goods available to the customer, the mechanic who repairs cars - all offer services essential for an effectively functioning society.

2. Students should be given an opportunity to explore their interests and abilities. Many workers are unhappy in their chosen occupations because they did not take the time or have an opportunity to adequately evaluate their interests and abilities. Self-exploration should therefore be an important factor in occupational orientation.

3. Students should develop a healthy self-concept which hopefully will lead to success in a work setting. What a person thinks of himself, to a large extent, influences his chances of success in any endeavor. If a person feels that he can't perform certain tasks, he will probably fail. However, those with healthy self-concepts are more likely to succeed.

4. Students should learn how to find, evaluate, and use information relating to career development. If the student develops these skills, he will not have to depend solely upon others in obtaining career information but can work independently.

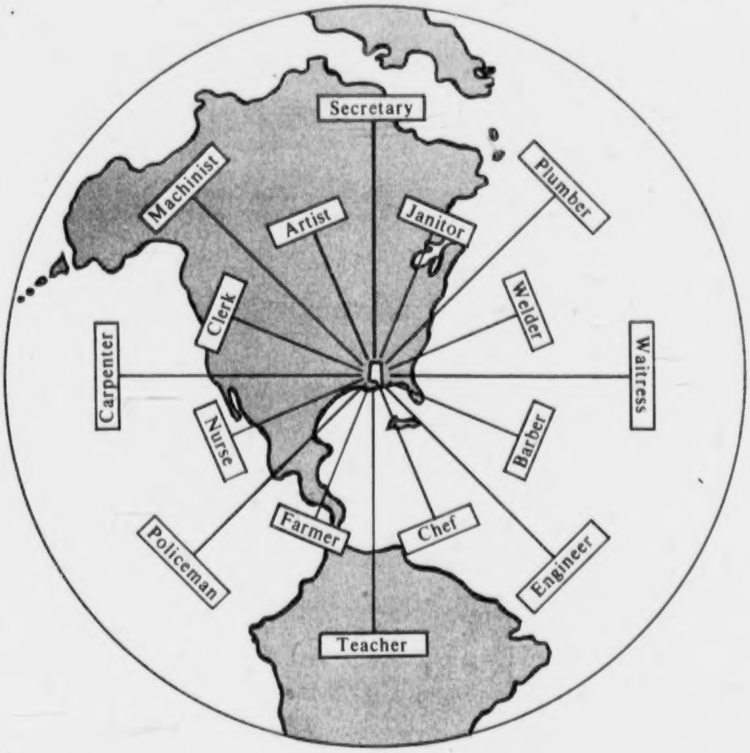
5. Students should become familiar with various occupations and the requirements for success in these occupations. After receiving an overview of a wide variety of occupations, the student should be given an opportunity to investigate those occupations in which he is most interested.

6. Students should learn the procedures and techniques which may be helpful in securing jobs at a later date. Knowing where to look for jobs, how to fill out applications, and how to act during a job interview could make the difference between being employed or unemployed.

7. Students should be given an opportunity to receive realistic hands-on-experiences relating to a wide variety of occupations. These experiences should help students determine some of the work areas for which they may be suited.

OCCUPATIONAL ORIENTATION

An Introduction to the World of Work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OCCUPATIONAL ORIENTATION

An Introduction to the World of Work

by

Jasper S. Lee

Associate Professor
Mississippi State University

1971

Foreword

The Vocational and Technical Division of the State Department of Education has always tried to expose students to all areas of work in a systematic way in an attempt to broaden the base for vocational choice. In the past this was largely done by vocational counselors and teachers. However, recent trends in the world of work and in education have placed increased emphasis on the need for effective programs of vocational guidance. The passage of the 1968 Amendments to the Vocational Education Act of 1963 placed additional emphasis on vocational instruction designed to assist individuals in making informed and meaningful occupational choices. In response to this need the Curriculum Coordinating Unit for Vocational and Technical Education was assigned the task of developing a course of study in Occupational Orientation.

This course of Occupational Orientation is designed to provide information about the world of work and help students prepare to make the choices which are called for as they move through school toward an ultimate vocation. Such instruction will help students eventually make vocational choices that are satisfying and productive for themselves and for the society of which they are a part.

Joe McDaniel, State Supervisor
Vocational Guidance and
Occupational Orientation

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To The Teacher

Assistance in career development for youth is receiving increased attention in education today. Many schools have classes in which students study about occupations and the requirements for success in the world of work. Frequently, the teachers of such classes have indicated that additional materials were needed by their students.

This publication is designed for use by students in occupational orientation classes. It is to provide a central core around which class activities may be structured. However, teachers must realize that this publication is not intended as a textbook. Seventeen Units, or Chapters, are presented. Each Unit contains pertinent background information followed by review questions. A number of suggested activities are listed at the end of each Unit. The activities listed are a few of the many possibilities. Teachers are encouraged to use creativity with a variety of techniques in providing realistic activities for occupational orientation classes.

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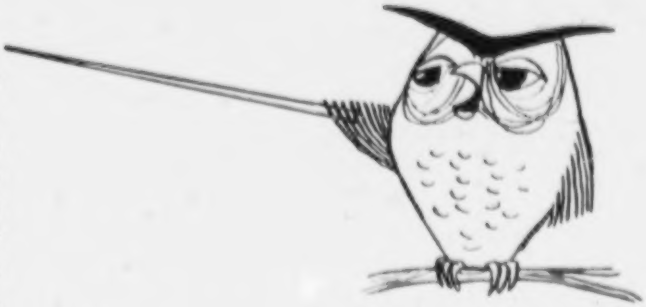
I. Introduction



Have you ever thought about how people get started in jobs? People get into jobs in various ways. Entering jobs is simplified if one knows what is required. Success in life will depend upon what one knows. Success in getting the best job will depend upon what one knows about work. This publication is designed for better understanding of jobs and work.

The Introduction will attempt to answer the following questions:

1. **What is occupational orientation?**
2. **What is the "world of work"?**
3. **Why should youth study occupations?**

1. What is occupational orientation?

"Occupational orientation" is a big term that implies a number of things. In some places, high schools have classes named Occupational Orientation. In these classes students study all about jobs. Field trips, movies, laboratory exercises, and other activities are included. These activities are designed to let students know what it is *really* like to work in various jobs. Teachers coordinating these activities are specially trained. They have studied vocational education and guidance. Many schools also have counselors who assist the occupational orientation teacher. Sometimes the occupational orientation teacher may be known as a coordinator of orientation.

① **The major purpose of classes in occupational orientation is "to provide individuals with sound bases for job choices."** Sooner or later almost everyone has to decide upon what kind of work to do. Decisions are more easily made if an individual knows about various kinds of jobs.

Occupational orientation is more than the name of a class. It is also a process. Occupational orientation is a process whereby persons locate themselves relative to jobs **In brief, it involves developing an understanding of the world of work.** Many things are included: attitudes, aspirations, self-concepts, aptitudes, and environment. Selecting the first job may decide the course of an individual's life. Yet, the choice of a first job is not a final decision. It is the first of a series of choices which serve as a basis for directing one's life.

2. What is the "world of work"?

The term "world of work" is commonly used by teachers and counselors in occupational orientation classes. It includes all of the jobs, and the activities that relate to them, in which people are employed. With most people, employment in the world of work is the means of earning money to pay for the necessities and luxuries in life. Everyone who works is a part of the world of work: newspaper delivery boys, waiters, welders, and engineers are a few. Persons in the world of work usually have careers, occupations, and jobs.

A career is the course of a person's life as related to the world of work. It is similar to a vocation in that it may be said to be a "calling" to a particular business or profession. People may pursue careers in education, agriculture, marketing, and other areas. A career may involve several different occupations. For example, in a career in education a person may start as a teacher, advance to assistant principal, then to principal, and, finally, to superintendent. All of these occupations are in the same career–education. Yet, each is a different occupation and involves different activities and responsibilities.

Distinction is usually made between occupations and jobs. Several persons may have the same occupation but a different job. A job is any definite task, usually performed for pay. Sometimes professional jobs are referred to as positions. The word "job" implies site and specific function or duty. Take for example, the case of two carpenters. Their occupations are the same but their jobs might differ in several ways:

1. One of the carpenters could be employed in one city and the other in another city. Hence, their jobs would not be the same.
2. The two carpenters could be employed at the same construction site performing different tasks.
3. One of the carpenters could be unemployed. He has an occupation but not a job.

② **Some people are not monetarily paid for their work.** The importance of work cannot always be measured by whether or not money is involved. **A good example is the occupation of housewife. Work is very definitely involved in managing and caring for a home. This kind of work is important to the well-being of a family. Pay for the housewife is in the form of intangible rewards that come from the satisfaction of a well-kept and properly-managed home.**

3. *Why should youth study occupations?*

③ There are many occupations in the United States. In fact, **close to 35,000 different occupations are known to exist.** A majority of these require specific education and training. Also, occupations change. New technological advances require persons in certain occupations to learn new skills. Additional education and training may be required. If a person in an occupation fails to learn the new skills, he will soon fall behind and may be replaced by one who did learn. It is obvious that youth have many occupational opportunities and challenges ahead of them. They will need facts with which to make decisions.

Youth can learn much from a study of the world of work. With the average life expectancy of 67.0 years for men and 74.2 years for women, many years of productive life lie ahead of every young person. The concern of most persons is to make the most of their lives. Every young person will have to make certain decisions. One of these is concerned
④ with the kind of career to pursue. **Decisions can be made more realistically if one knows about occupations.**

Young people must also know something about themselves. **Interests, attitudes, and capabilities must be considered in selecting an occupation.** Some occupations require considerable education and training. A knowledge of where the education can be obtained and how much it will cost is a must. Consideration must also be given to the assets available; that is, the amount of money available to pay for the education.

Studying occupations should be of great value in planning for the future. A job or school should be selected on the basis of a rather thorough knowledge of the world of work. Since many persons are unhappy with their first job or area of study, consideration should be given to personal traits.

Students going to college need to be realistic in selecting an area of study. Certain areas of study have been glamorized. For example, engineering is glamorized at some universities. Occasionally, students enter this area of study without considering what is involved. After one or two semesters and several hundred dollars for tuition have been spent, the student begins to realize that engineering is not for him. He changes to some other area in which he is happier. In the meantime, he has taken courses which may not apply to the new area. He may have received low or failing grades and, possibly, have been placed on probation. He may have to attend one or more additional semesters beyond what is normally required to earn a degree.

Students going to vocational schools need to be able to select the area in which they want to receive training. Consideration should be given to the opportunities available after training. There is great demand and prestige for skilled persons in certain occupations. The period of training is usually less than that required for a college degree. Through a study of the educational requirements for entering various occupations, young people will be assisted in developing their plans.

For youth not desiring to continue their education after high school, a knowledge of occupations will be helpful. **Studying the world of work will assist in obtaining the first job, working well on the job, and advancing.** Many successful people have not had education beyond high school, but the trend is in favor of those with additional education.

This publication is concerned with assisting youth in developing insight into the world of work. Considerable information and activities are included to help develop an understanding of what the world of work is really like.

Students should also use other reference materials that are available. After studying the information and performing the suggested activities, students should have a good foundation for planning their future.

Goal:

Students should understand the reasons for taking a course in occupational orientation, and they should become familiar with the activities that they will perform.

After the students have read Chapter I, have them discuss the following questions:

Review Questions:

1. What is the purpose of occupational orientation classes? p. 1
2. Can an unemployed person have an occupation? Explain. p. 2
3. How many different occupations are found in the United States? List the occupations of your parents and/or other family members. p. 2
4. How will studying the world of work assist youth? pp. 2-3

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Have your teacher explain some of the activities which are a part of your occupational orientation class.

   a. Students may take tests and vocational inventories, fill out questionnaires, engage in group discussions and other activities designed to give them a better understanding of themselves and the world in which they live.

b. Students may learn more about the world of work and occupations in which they are interested through reading various printed materials such as books, pamphlets and brochures, and occupational briefs.

c. Students may also learn more about various occupations through viewing films, filmstrips, and slides and listening to tapes.

d. Whenever possible, field trips should be arranged so that students may observe workers on the job.

e. Persons engaged in various types of jobs in the local community may be invited into the classroom to tell students about their work. Students will have an opportunity to ask questions.

f. Students may be given an opportunity to engage in simulated experiences which resemble activities performed by workers in various jobs.

g. Students may learn how to locate and make applications for jobs.

2. Have your teacher or counselor review some of the benefits received by students previously enrolled in occupational orientation.

a. Occupational orientation courses often help students decide which high school courses best prepare them for the type of work in which they are interested.

b. Students are better able to determine the types of jobs which seem to correspond to their own interests and abilities.

c. Students often become familiar with jobs which were previously unknown to them.

d. Students have an opportunity to consider the advantages and disadvantages of different types of jobs.

e. Students may determine the training required and the opportunities available in many jobs.

3. Tour the classroom and occupational laboratory. Some schools have specially equipped orientation laboratories. Other schools include the following as a part of the occupational laboratory: business education facilities, shop, agriculture department, home economics laboratory, and distributive education department. Your teacher may want to give short demonstrations of some of the equipment.

The initial tour of the occupational laboratory should acquaint students with the facilities available in the school. Students should be given an opportunity to actually engage in exploratory work experiences when they study the occupations listed under Roe's classification in Chapters VII through XIV.

4. Write a short paper entitled "My Plans for the Future." Keep this paper and change it throughout the year as your plans change. Your teacher may prefer to keep this paper for you until near the end of the year when another paper could be written with the same title. You can compare the two papers to see how your plans change.

   Students may be encouraged to determine how they will accomplish their plans as well as what their plans are.

Additional Activities:

1. Students should be given an opportunity to make suggestions concerning the type of activities which they feel will be most interesting and worthwhile. They may be more inclined to participate if they take part in the planning. The class may be divided into groups of approximately six students. Each group may be responsible for determining which activities they favor and reporting their findings to the class.

2. Have the students write an autobiography. Although many teachers prefer a completely unstructured autobiography, other teachers encourage students to include areas such as family life, health, school activities, social interests, hobbies, and occupational interests.

   Writing an autobiography helps the student determine some of the areas which are most significant to him and also helps the teacher know the student better.

3. Students may work as a group in drafting a letter to their parents explaining the occupational orientation course. They may want to include some of the following points in their letter:

   a. Occupational orientation classes are not designed to encourage students to make a definite career choice but to give them information which will facilitate a realistic choice at the appropriate time.

   b. Occupational orientation classes are for all students, not just for those who plan to get a job upon completing high school.

   c. Students taking occupational orientation will have an opportunity to learn more about themselves and about various jobs in which they might be interested and for which they might be suited.

   d. Some of the activities of occupational orientation classes, such as going on field trips, listening to guest speakers, and viewing films and slides, might be mentioned.

   e. Parents who are interested in telling the class about their jobs may be invited to address the class. A special form at the bottom of the letter may be inserted for parents to indicate if they are interested in speaking to the class. This form could be returned by the students.

   The teacher will probably want to help the students in working on the letter and help them in getting the letter typed and mimeographed.

Suggested Review Survey:

Circle the best answer.

1. The major purpose of classes in occupational orientation is:
   a. to encourage individuals to make a definite job choice during the school year.
   b. to teach students definite job skills.
   c. to provide individuals with sound bases for job choices.
   d. to help the student get a job for the summer.

2. The "world of work" includes:
   a. everything that a person does in his life.
   b. all of the jobs, and related activities, in which people are employed.
   c. those things that a person does during his leisure time.
   d. only those who hold down full time jobs.

3. A definite task involving specific functions and duties is called a (or an):
   a. "calling"
   b. career
   c. job
   d. occupation

4. Approximately how many occupations are known to exist?
   a. 500
   b. 35,000
   c. 150,000
   d. 6,000

5. Once a person chooses an occupation he:
   a. will stay in that occupation for the rest of his life.
   b. will never have to go back to school.
   c. may be required to obtain additional training.
   d. will always hold his job if he works hard.

6. Young people considering an occupation must know something about their:
   a. interests.
   b. attitudes.
   c. capabilities.
   d. interests, attitudes, and capabilities.

T F 7. Work always involves monetary reward.

T F 8. An occupation is said to be a "calling" to a particular business or profession.

T F 9. A student must go to college if he expects to get ahead in life.

T F 10. Students who plan to get a job upon finishing high school do not need to learn about occupations.

Answers to suggested review survey: 1, c; 2, b; 3, c; 4, b; 5, c; 6, d; 7, F; 8, F; 9, F; 10, F.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Listed below are books and pamphlets of a general nature which are not referred to at the end of subsequent chapters in this publication but which may be helpful to occupational orientation teachers in conducting classes.

Supplementary Books and Pamphlets:

CAREER INFORMATION IN COUNSELING AND TEACHING 216 a

CAREERS FOR THE SEVENTIES 220 a

EDUCATORS GUIDE TO FREE GUIDANCE MATERIALS 221 a

FUNDAMENTALS OF GUIDANCE 224 a

THE INFORMATION SERVICE IN GUIDANCE 235 a

INTRODUCTION TO VOCATIONS 218 b

OCCUPATIONAL INFORMATION: THE DYNAMICS OF ITS NATURE AND USE 237 d

OCCUPATIONAL INFORMATION: WHERE TO GET IT AND HOW TO USE IT 230 a

PERSONALIZING INFORMATION PROCESSES 228 a

PREPARING INSTRUCTIONAL OBJECTIVES 222 b

STATING BEHAVIORAL OBJECTIVES FOR CLASSROOM INSTRUCTION 228 b

THE TEACHER'S ROLE IN CAREER DEVELOPMENT 232 a

TECHNIQUES OF COUNSELING 230 c

VOCATIONAL AND PRACTICAL ARTS EDUCATION 223 a

II. Determining The Importance Of Work

Did you know that the average person works about 2,000 hours each year? This is true, assuming that one works 40 hours a week and has two weeks off for vacation. Some people average more than 40 hours of work each week. There must be some reason why people spend so many hours working. The following questions will be answered in this unit:

1. **Why do people work?**
2. **How does work contribute to level of living?**
3. **What is a "work ethic"? How do work ethics vary?**

1. Why do people work?

Work is important in the lives of all people. Yet, they may not know what the word means. "Work" is frequently used interchangeably with "occupation" or "job." It is commonplace for one person to ask another about his work.

① Various meanings are attached to the word "work." **In a broad sense work refers to what an adult spends most of his time doing.** It is the major focus of one's activities and energy. It is usually the way one earns a living, but not always. For example, the major focus of the energy of a housewife is to maintain a home. She receives no pay for this activity, yet it consumes most of her time.

Work is also said to be "human effort devoted to production." Goods and services are produced. Goods include food, clothing, appliances, and all of the other tangible things that are a part of our daily lives. Services are intangible. Examples of services include the work of persons in dry cleaning, medical, and similar occupations. In these occupations, one does something for the customer but no new product changes hands.

People work for various reasons. When questioned, most people indicate that they work for pay, but there are other reasons people work. These involve the meeting of certain needs. Those met through work are related to the physical and other needs of man.

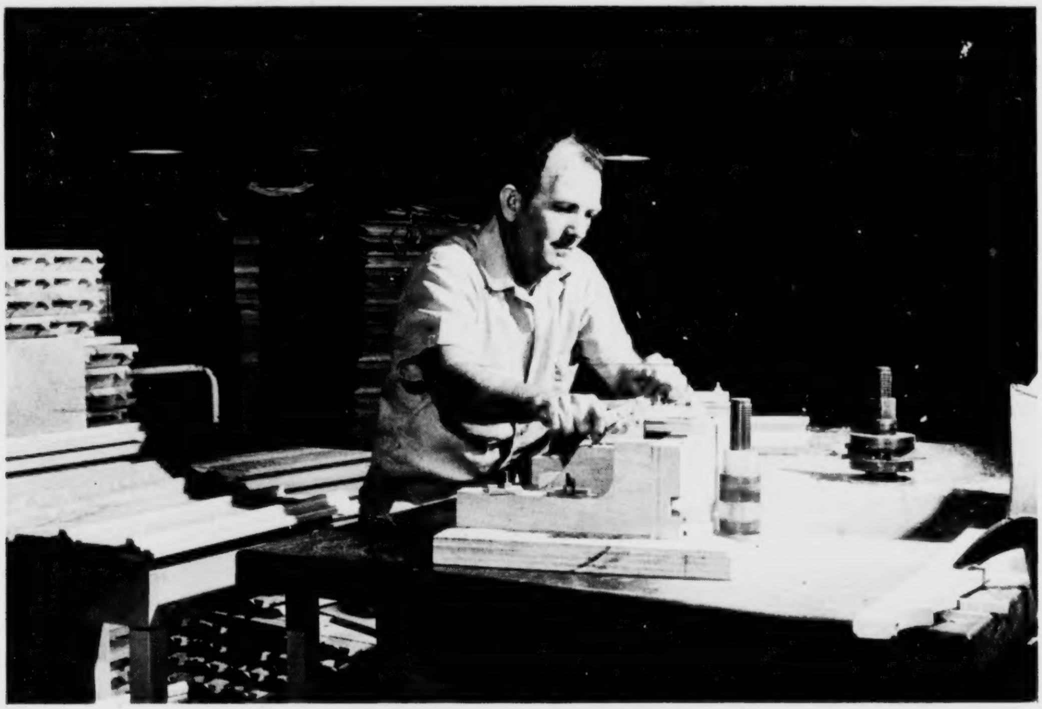
Physical Needs

② **The money earned by working provides food, clothing, and shelter. These are the necessities of life.** Food accounts for approximately one-fourth of the money required for physical needs. It should be noted that the proportion of money spent for food has declined in recent years. A few years ago one-third or more of the money earned was spent for food. On the average, more money is now available to buy clothing, housing, entertainment, and recreation than previously. The amount of money available for physical needs depends upon the amount of pay received. Pay varies with the kind of work and productivity on the job.

Other Needs

People have needs other than those which money will buy. Work serves to fulfill those needs. Most people want to be recognized, to feel important, and to achieve.

Work provides an opportunity for recognition when a job is well done. Recognition comes in the form of respect from fellow workers, employers, and the general public. Many businesses have incentive plans to reward good work. Employee appreciation in the form of awards for years of service and improved efficiency provide recognition.



The Work Shown Above Involves Using a Shaper to Produce Various Shapes and Designs in Wood. (Courtesy MPI Industries, Jackson, Mississippi.)

A person feels important when he works hard and achieves goals. A feeling of importance is related to self-esteem. Self-esteem is the respect one has for himself. Knowing that a job has been performed well results in personal satisfaction. For example, a carpenter can receive great personal satisfaction from knowing that he has used his skill in constructing a house.

Everyone wants to achieve. To achieve one must have goals to work toward. If one does not have goals he may wander aimlessly and achieve very little. Achievement may come in various ways.

Work is a social arrangement. It aids in meeting the social and psychological needs of man. People want to be a part of something. By working, most people are a part of a company, department, or work crew. Friends are frequently found at work. Social activities after work hours may involve fellow workmen. Many housewives prefer to work full time or part time outside the home. Such work makes life more interesting and provides the opportunity of keeping in touch with the world of work. It also supplements the family's income.

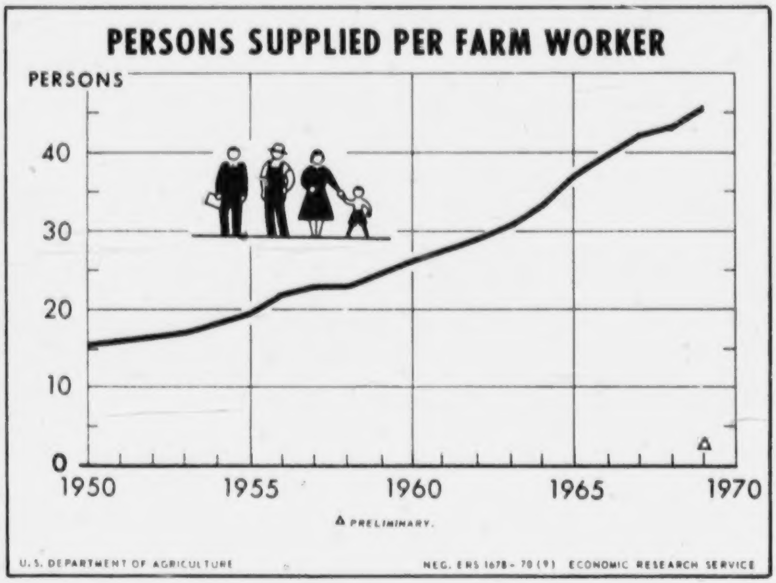
2. How does work contribute to level of living?

Level of living refers to the way or style in which people live. Some of the things determining the level at which people live are the kinds of houses, clothes, food, and social and recreational activities available. Work contributes to level of living in two ways: (1) The level at which all of the people in a nation live and (2) the level at which an individual or family lives.

Level of Living in the United States

③ The level at which the people of the United States live has changed considerably since the days of the pioneers. Level of living is related to agricultural productivity. In earlier days practically everyone lived on the land. Almost everything a family needed was grown at home on the farm. Today, a relatively small percentage of people live on farms. The total labor force in the United States is now almost 85 million persons. Nearly 40 percent of this number work in agricultural occupations but only 5 percent are employed in farming. One farmer produces enough food and fiber for himself and 47 other people. If consideration is given to the agricultural products that are exported, one farmer produces enough for more than 50 people.

The affluent life which is enjoyed by most Americans is possible only because of the productive farmers. By having a low percentage of persons employed in farming, millions of persons are released from the production of the necessities of man, such as food, to produce instruments of pleasure in the form of automobiles, television sets, and many other devices prominent in our daily lives.


PERSONS SUPPLIED PER FARM WORKER

U.S. DEPARTMENT OF AGRICULTURE NEG. ERS 1678-70 (9) ECONOMIC RESEARCH SERVICE

Nations with low agricultural productivity usually have low levels of living. More people are required to produce the necessities. Hence, fewer people are available to produce the luxuries.

It should be remembered that the productivity of farmers is due to agricultural research and education. Research is conducted to develop improved methods of production. Education is necessary to acquaint farmers with the findings of research. Research and education in agricultural areas have been and will continue to be important to level of living.

Level of Living of Individuals

④ The level at which an individual lives is determined by the overall level of living in the country in which he lives and by the kind of work he does. In countries with low overall levels of living individuals are more likely to live at a low level. Likewise, the reverse is true in countries with high levels of living, such as the United States.

Within the United States, the level at which an individual, or family, lives is determined by the kind of work the individual does. The work, or occupation, of an individual pretty much determines the amount of money available. Money is necessary to buy the goods and services required for living. The kind of occupation may result in certain business contacts which dictate level of living. For example, a medical doctor associates with other doctors.

Many medical doctors have similar levels of living because of the prestige, income, and social pressure from their peers. Commonly, in the United States, this is known as "keeping up with the Joneses."

Unfortunately, some people attempt to live at a higher level than their income will permit. Certain luxuries may be purchased when, in fact, the money would have been more properly spent on necessities. In such situations, an unreal level of living is created.

3. What is a "work ethic"? How do work ethics vary?

Ethics establish how people will act. This includes moral values and duties. Ethics gradually develop over a period of many years. Changes are made slowly. All of man's actions toward and with his fellow man are regulated by ethics. Areas in which strong ethics have developed are religion, sex, and work.

"Work ethics" are concerned with how people view work. Attitudes vary. Individuals have different views of work. The overall view of work varies from one country to another.

Work Ethics in the United States

Work is a natural and integral part of life in the United States. Much of the work ethic is rooted in religion. Most people contend that everyone should work. Some even say that "He who does not work is evil." The person who does not work may be considered a burden on society. Of course, exceptions are made for those who are old, very young, and handicapped.

Some cities and states have laws to encourage work. These are known as "vagrancy
⑤ laws." **Persons who cannot prove they have enough money to support themselves may be
jailed.** The same is true for persons who do not have jobs. These laws usually are not strictly
enforced.

The work ethic varies slightly within the United States. People in the North may have slightly different views of work from those in the South. The differences are not great and are smaller today than a century ago. The keeping of slaves in the southern states served to set some people apart from the others. Wealthy persons who had slaves did little physical work. The women of the wealthy families spent their time keeping beautiful rather than working. The men spent much of their time in leisure activities. The abolition of slavery brought changes. Many of the "elite" women had to find places for themselves in the world of work. The men had to do work formerly done by slaves.

Ideas toward work are handed down from father to son. Changes do occur but only gradually. A change currently taking place is concerned with the role of women. Traditionally, the work of women has been in the home. Women are now taking jobs outside the home. They are entering occupations formerly reserved for men. Part of this change has been brought about by organized women's liberation groups. This is known as the "lib movement."

Most people like to work. They like the work ethic. In reality, the work ethic has contributed to the development of the country. Pioneers had to work to clear land and construct trails. The industrial revolution made it possible for man to be more productive. Machinery reduced the burden and drudgery of work. Much of the progress of our nation is due to the attitudes and willingness of the people toward work.

Work Ethics in Other Countries

The people in many countries have views concerning work that are similar to those in the United States. Canada and Europe do not differ greatly. There are countries, however, where work is viewed differently.

Work was considered evil in the ancient world. The Greeks and Romans of old thought that the gods hated man. Out of spite the gods forced man to work. In an attempt to avoid work, the richer people kept slaves. All who could avoided physical work.

Today in a few countries men are not the main workers. Women do most of the work. The men stay near the house and take life easy. These countries are not highly developed. The citizens usually have a low level of living.

Work is not highly developed in some of the primitive countries. No crops are grown. The people tend to roam around in tribes and live off of what they can find. These people lack many of the modern conveniences that others have to enjoy. Also, they frequently have a shorter life span because medical services are not available.

Work ethics are influenced by how the government functions. In certain countries all work is for the government. The goods and services produced belong to it. Government stores sell what is produced, keeping any profit for its treasury. This is different from the system of capitalism in the United States. Here individuals may operate stores and keep any profit for themselves.

Goal:

Students should realize that the occupation which they choose will dramatically influence almost every aspect of their lives.

After the students have read Chapter II, have them discuss the following questions:

Review Questions:

1. What is work? p. 4
2. What needs of man does work meet? pp. 4-5
3. What is the most important factor related to "level of living" in a country? Why? p. 6
4. What determines the level of living of individuals? p. 6
5. What are "vagrancy laws"? p. 7

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Make a list of the goods your family uses. Indicate which are necessities and which are luxuries. You may choose to make two columns on a sheet of paper as follows:

GOODS MY FAMILY USES	
NECESSITIES	LUXURIES

After everyone in the class has made a list, your teacher may develop a list on the chalkboard. Examples may be chosen from each student's list. Note: If you do not understand the terms "necessities" and "luxuries" your teacher will explain them.

a. A necessity is something that a person must have in order to live. Examples of necessities are housing, clothing, and food.

b. A luxury is something which adds pleasure or comfort but is not absolutely necessary. Examples of luxuries include expensive clothes, steak every night, and color television sets.

c. Students may place the same items in different columns. They may discuss whether these items are necessities or luxuries. For instance, some people may consider the telephone a necessity while others feel that it is a luxury.

d. Have students discuss things which have been necessities although they were considered luxuries at one time. For instance, although automobiles were once considered luxuries, they are necessities for people who do not live within walking distance of work.

2. **Interview several people in different occupations. Ask them about the benefits of their work–to themselves and to society.**

   a. Refer to Appendix F.

   b. Students should be encouraged to interview workers in a wide variety of occupations. Not only professional people but also those who work with their hands for a living should be included.

   c. Students may formulate their own questionnaire, survey workers in various occupations, and compile the results of the survey.

   d. Similarities and differences in the answers of workers in different occupations may be discussed.

3. **Invite an agriculture teacher, county agent, or other knowledgeable person to visit your class and talk on the topic "How agricultural productivity is related to level of living."**

   a. Refer to Appendix D.

   b. If time permits, the resource person may explain his job to the students.

Additional Activities:

1. Students may complete a check list concerning their attitudes toward work. After finishing the check list, students may divide into small groups and discuss their reasons for responding as they did.

HOW DO YOU FEEL ABOUT THE FOLLOWING*

DIRECTIONS: Check (✓) in the column which best describes your feelings.

Agree	Undecided	Disagree		
			1.	All fathers should have a job.
			2.	Work means physical labor.
			3.	People enjoy work.
			4.	Mothers should not work outside the home.
			5.	The only thing a person gets from his job is the money he makes.
			6.	Teenagers should not work part time while in high school.
			7.	Teenagers should not work full time while in high school.
			8.	People are unemployed because they don't want to do the type of work which is available.
			9.	People are unemployed because they don't want to work.
			10.	People are unemployed because there are not enough jobs.
			11.	People are unemployed because they lack education and training to do the type of work which is available.
			12.	People who sit at desks are actually not working.

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*Lila Jeanne Eichelberger, "A Unit of Study on Orientation to the Worlds of Work," Illinois Teacher, Bonus Issue (Winter, 1965-66), pp. 25-26. Printed with Permission.

2. This exercise is designed to assist students in clarifying some of their values and how values differ with individuals. Have each student rank the twelve values in order of importance on the VALUES INDEX. Post and tally on the VALUES SCALE the rank assigned to each student. Inspection of the distribution of scores on the VALUES SCALE may help students realize that individuals vary greatly in the importance which they attach to various values.

Since each person has a unique set of values, he should try to choose an occupation which is compatible with his values. Students may discuss each of the twelve values and determine which jobs would probably be suitable for a person possessing each value.

VALUES INDEX*

Rank the values listed in order of importance to you. Do not put your name on the paper, and try to be honest. Rank by numbering the values stated from "1" to "12" — "1" is the one most highly regarded, and "12" is least regarded. A summary of the rating of values in your class will be reported to you at the next session.

☐ Having power over people

☐ Being respected by others

☐ Being well-liked by others

☐ Knowing a lot — being intelligent

☐ Being able to do many things well

☐ Knowing that you are safe and comfortable

☐ Being in good physical and mental health

☐ Being right

☐ Being religious

☐ Helping other people

☐ Being loyal to your nation

☐ Being courageous

*__Career Development Activities for Grades 5, 6, and 7.__ Abington School District, Pennsylvania, pp. 106 and 124. Title supplied. Printed with permission.

VALUES SCALE*

Values	1	2	3	4	5	6	7	8	9	10	11	12
Having power over people												
Being respected by others												
Being well-liked by others												
Knowing a lot — being intelligent												
Being able to do many things well												
Knowing you are safe and comfortable												
Being in good physical and mental health												
Being right												
Being religious												
Helping other people												
Being loyal to your nation												
Being courageous												

*__Career Development Activities for Grades 5, 6, and 7.__ Abington School District, Pennsylvania, pp. 106 and 124. Title supplied. Printed with permission.

3. The following exercises are designed to enable students to become more aware of their values and goals:

VALUES AND GOALS*

Without announcing the topic, ask several students to describe someone whom they admire. Listen for the values implicit in their descriptions. Then explain that the students who spoke have told the class something important about themselves. What one admires in other people are qualities which one considers to be worthwhile, or of value. Have the class recall some of the qualities that were named, and list them on the chalk board. Ask class members to add to the list other values they believe are important. Does everyone agree to all the values named? Are there "right" and "wrong"values to hold? Should everyone value the same things? Why? How can you tell what values a person holds? Can others tell what things you value? Do you ever say or do something that reflects a different set of values from those you want to hold?

List five things you have purchased recently. Beside each item, make a note to indicate what values this purchase reflects. Did you know that you valued these things?

Discuss the meaning of values. Let each student have time to think about his own values and try to identify some of the most important ones. List them. Ask each student to keep a written record of how his free time is spent for a designated number of days. At the end of that period, bring the record to class and match it with the former list of values. Do your activities reflect the values you have listed? If not, which more truly reflects your values — reflects the things you think you value or the way you spend your time? Discuss.

Assign or read aloud to the class a popular story or an excerpt from one. What are the values of the main character? Does he have any goals toward which he is working? What are they? Are his actions appropriate for reaching those goals?

List three of your short-term goals and three long-term goals. Choose a partner and tell each other about these goals. How do your goals reflect your values? Why do people set goals? Would we live and act in the same way if we did not have goals? Do we ever have goals that we do not realize we have?

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*Mary L. Hill and Helen Karr McFarland, **Home Management for Low Income Families: Ninth and Tenth Grade Level,** pp. 21-22. Printed with permission.

4. This exercise may help students improve their abilities to solve problems.

PROBLEM-SOLVING*

Problem-solving skills are among the most vital learnings needed by young people. The learning of any skill requires practice in applying the skill many times and in many different situations. Students should be encouraged to apply the steps in problem solving individually, in small groups, and as a class as many times as possible throughout the semester. The steps, briefly, are:

a. Clearly define the problem and think it through.
b. Consider resources available to solve it.
c. Think through all the possible choices for solving the problem, and the probable consequesnces of each.
d. Choose the plan that seems best for you.
e. Try your plan for a reasonable period of time.
f. Evaluate your plan in terms of your original goals.

Most management textbooks contain thorough discussions of this process.

Students engaging in small group problem-solving.

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*Mary L. Hill and Helen Karr McFarland, **Home Management for Low Income Families: Ninth and Tenth Grade Level,** pp. 21-22. Printed with permission.

Suggested Review Survey:

Circle the best answer.

T F 1. The proportion of a person's salary spent on food has declined in recent years.

T F 2. Level of living is related to agricultural productivity.

T F 3. The majority of people in this country live on the farm.

T F 4. Work ethics are the same in all countries.

T F 5. The percentage of women working outside the home has decreased in recent years.

T F 6. The necessities of life include food, shelter, and entertainment.

T F 7. A person usually achieves more when he is working toward a goal.

T F 8. The level at which an individual lives is determined only by the kind of work the individual does.

T F 9. Services include food, clothing, appliances, and all of the other tangible things that are a part of our daily lives.

T F 10. Self esteem is the respect one has for himself.

Answers to suggested review survey: 1, T; 2, T; 3, F; 4, F; 5, F; 6, F; 7, T; 8, F; 9, F; 10, T.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Filmstrips:

JOBS AND GENDER 241 i

WHY WORK AT ALL? 241 s

III. Understanding The Present World Of Work

The world of work changes. Jobs change. New skills must be learned to find and maintain employment. Practices followed by employers also change. In brief, if one is to be successful in the world of work he must know the practices that are followed. He must also be willing to accept new practices.

This unit is designed to provide a broad understanding of the world of work. The following questions will be answered:

1. **How has the world of work changed?**
2. **What kinds of agencies employ workers?**
3. **How are businesses organized?**
4. **What is the possibility of owning your own business?**
5. **What is the trend in working conditions?**
6. **What is the place of unions in the world of work?**
7. **What is the place of apprenticeship training in the world of work?**
8. **What wage payment practices are followed?**
9. **What fringe-benefit practices are followed?**
10. **What legal regulations apply to workers?**
11. **What occupations are most promising? Least promising? Why?**
12. **What relationship does citizenship have to the world of work?**
13. **What is the role of avocational interests?**

1. How has the world of work changed?

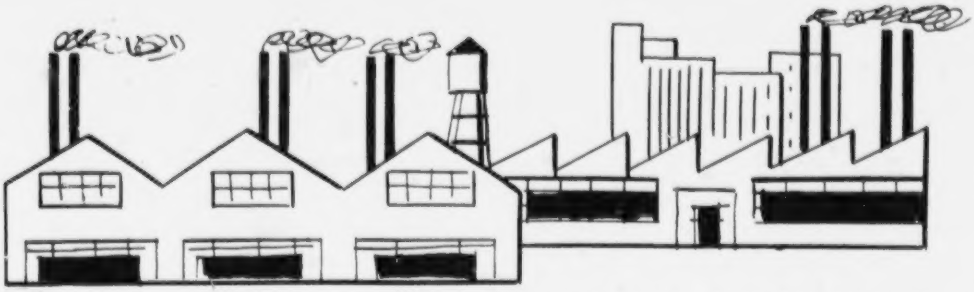
Many changes have occurred in the world of work. Changes in work affect how and where we live. Likewise, how we live reflects these changes. It is possible to place changes in work in groups. Three groups of changes are discussed here: (1) place, (2) technological advancement, and (3) skill requirements.

GENERAL
STORE

① *Place.* Place of work refers to where work is found. **In the early history of the United States most people worked at or near their homes. Practically everyone farmed.** Little money was needed. Most of the food and clothing was produced at home. Only necessary items which couldn't be produced at home, such as sugar, flour, and kerosene, were purchased. Small communities with one or two general stores were located throughout the countryside.

In the 1800's certain machinery was invented. This machinery reduced the amount of hand labor required to do work. Factories to make the machinery sprang up. **People moved away from the farm to be near these factories.** Some of the small settlements became towns, and some of the towns became large industrial cities. Other small communities dwindled away and no longer exist.

Today millions of people live in or near large cities. Examples of such cities include New York, Chicago, and Detroit. Many people have moved from Mississippi to these and other cities. Large factories in which people work at many different jobs are found there. The trend of movement from rural areas to the cities still exists but it is not as great as it was a few years ago.



In areas that still remain relatively rural the trend has also been for the towns and cities to grow. The state of Mississippi is a good example. Many people have moved into the towns and cities of the state. The largest population areas are near Jackson and the Gulf Coast. Numerous industries have opened around the State. Persons desiring certain kinds of work have often found it necessary to move to the location of the work.

Technological Advancements. Technology is the application of science to the production of goods and services. Automation is often included with technology. It involves producing goods and services with machinery rather than by hand labor; that is, goods and ② services are produced automatically. In effect, technology and automation have joined together to reduce the burden of hand labor.

Workers must be able to use complex machinery. They must also be able to adapt their skills to using the new machinery that is constantly becoming available. Some workers may be replaced by new machinery. When this occurs it may be necessary for them to secure employment in another occupation. It may also be necessary to learn new skills.

Worker Using a Formed Plywood Press. (This machinery presses cabinets for television sets.) (Courtesy MPI Industries, Jackson, Mississippi.)

A good example of the effect of technology and automation on work is the invention and perfection of farm machinery, especially the reaper. A reaper is a machine that harvests grain (wheat). Sometimes they are known as combines. The reaper was developed by Cyrus McCormick in 1831. Before 1830 nearly 56 man-hours were required to produce an acre of wheat. Since then considerable improvements have been made. Machinery to till the soil and plant the seed has also been perfected. Today an acre of wheat can be produced with about two man-hours of labor.

A few of the major inventions that have helped to advance technology are as follows:

DATE	INVENTION	INVENTOR	COUNTRY
3000 B.C.	Wheel	Unknown	Asia
105 A.D.	Paper from pulp	Ts'ai Lun	China
1793	Cotton Gin	Eli Whitney	United States
1807	Steamboat	Robert Fulton	United States
1831	Reaper	Cyrus McCormick	United States
1834	Steel Plow	John Deere	United States
1840's	Telegraph	Samuel Morse	United States
1845	Sewing Machine	Elias Howe	United States
1858	Steel (from pig iron)	Sir Henry Bessemer	Britain
1876	Telephone	Alexander Graham Bell	United States
1878	Incandescent Lamp	Thomas A. Edison	United States
1885	Gasoline Automobile	Karl Benz and Gottlieb Daumber	Germany
1925	Frozen Food Process	Clarence Birdseye	United States
1948	Transistor	William Shockley, John Bardeen, and Walter H. Brattain	United States
1953	Heart-Lung Machine	John H. Gibbon, Jr.	United States

Skill Requirements. The amount of knowledge and skill required to do certain work has increased. In early America no special education or training was required. Sons usually followed the occupations of their fathers. They learned the skills for farming, forging (blacksmithing), operating a store, and the like, from their fathers.

Today it is often necessary to go to special schools which provide education and skill-training. These schools include universities, colleges, and vocational-technical schools. Many vocational-technical schools have opened in recent years.

Skilled persons must also be willing to learn new skills. The trend is toward greater and greater amounts of education prior to beginning work. Persons with greater education and skill usually begin employment in a more advanced job and at a higher level of pay.

2. What kinds of agencies employ workers?

③ Generally, all persons are employed by either public or private agencies. The major distinction between them is whether or not they are designed to produce a profit. Primarily, public agencies are operated by the local, state, or federal governments. Other agencies, such as religious organizations and public services, may be considered as public agencies also.

Examples of governmental agencies employing workers are:

Local government—police departments, tax offices, schools, sanitation departments, street maintenance departments, welfare and social services offices, and others.

State government—highway maintenance departments, tax collection agencies, law enforcement agencies, inspection and licensing departments, and others.

Federal government—armed forces, agriculture, secret service, post office, housing and development, international agencies, and others.

Private agencies, or businesses, are usually established to make a profit. The profit goes to the person or persons owning it. Private businesses may be owned by an individual, partnership, corporation, or cooperative.

It should be noted that all private agencies are not designed to make a profit. A few non-profit private agencies exist. These usually exist to perform services that might be performed by the government.

Examples of private agencies and businesses are: grocery stores, real estate sales agencies, automobile dealers, welding shops, service stations, and industrial corporations.

④ Businesses are established to produce either goods or services. Goods are wares. Collectively goods are known as merchandise. Examples of goods include clothing, food, and automobiles. All of the items that are shelved in a store are goods. A service involves labor but not the production of tangible goods. Examples of services include those performed by laundries, funeral homes, and janitorial workers.

3. How are businesses organized?

Businesses are organized so that jobs vary considerably. Much of the variation is based on degrees of responsibility, skill, and capacity. Every business has one or more top-level managers. These persons are responsible for planning and management. The top level managers have people working under them to assist in implementing the plans. Sometimes these are known as mid-management jobs. Beneath these are technicians and skilled, semi-skilled, and unskilled workers. Persons just beginning work usually start in a lower level job. Advancement to a higher level is based on how well one does his job.

⑤ *Unskilled Jobs.* No special education or training is required for unskilled jobs. Persons working in these jobs need to be able to follow instructions accurately. The work involved usually is simple. With many people their first job is unskilled. It is possible for unskilled workers to move into semi-skilled jobs if they are diligent and willing to learn.

Semi-skilled Jobs. A small amount of training may be required for semi-skilled jobs. Experience gained in an unskilled job may be all that is needed. At this level some people learn the skills required for a skilled job.

Skilled Jobs. Special training and experiences are usually required to work in a skilled job. The training may be received through a period of apprenticeship, on-job work, or attending a vocational school.

Technical Jobs. Special education and training are usually required for a job as technician. A practical knowledge of science and mathematics is needed. Education for technical jobs usually involves two years of schooling beyond high school. Many persons in these jobs have attended technical schools.

Professional Jobs. Generally, a degree from a four-year college is required to enter professional jobs. Sometimes masters and doctors degrees are required.

Managerial Jobs. The top managerial jobs are usually filled by persons with considerable experience and education. These persons must be able to make decisions and have them carried out. Persons in lower-level jobs are usually involved in carrying out the decisions of managers.

Small businesses may not have workers specifically employed at all levels. However, there is usually a manager and those who assist him in performing the functions of the business.

4. What is the possibility of owning your own business?

⑥ Free enterprise is said to be a part of the American way of life. In effect, it means that anyone may organize and operate a private business for profit. However, the government may intervene if a business threatens either the economy or national defense.

Many different kinds of single owner businesses are found. Some of these are large and some are small. Businesses usually begin small. If successful, they may grow into large businesses requiring considerable managerial talent. Examples of businesses frequently owned by one person are drugstores, medical clinics, grocery stores, flower shops, and restaurants.

The trend in recent years has been for businesses to grow larger in size and smaller in number. For example, many small independently-owned grocery stores have disappeared. These have been replaced by large supermarkets owned by corporations. This has occurred because of a number of reasons. Larger stores sell more goods. In turn, because of large quantities of goods bought to sell they are able to buy from producers at reduced prices. The reduced prices are passed on as savings to shoppers. Small stores are frequently unable to compete.

This is not to say that an individual cannot successfully operate a business of his own. He can. But, he must realize that it is difficult to compete in price with big businesses. To be successful, a small business must offer quality merchandise at a reasonable price along with good service. Personal interest and friendliness with customers also help small businesses to be successful.

A popular way of owning a business is to obtain a franchise from a large company. An individual owns the business and yet has the advertising and promotional benefits of the larger company. Also, the larger company may serve as the supplier of the products to be sold or produced. Examples of such businesses are hamburger shops, gasoline stations, and drive-in grocery stores.

Instead of owning a business, many persons own stock. An owner of stock owns a share of the business. The returns one receives on the stock are proportionate to (1) the amount of stock owned and (2) the percentage of dividends paid. Stockholders receive dividends only if a profit is made and the board of directors authorizes the payment of a dividend.

5. *What is the trend in working conditions?*

Changes in the world of work are reflected by working conditions. Working conditions include such things as the following:

Number of hours worked per week
Hazards of a particular job
Environment in which work is performed
Nature of the work

① *Length of Work Week.* The forty-hour work week is well established for many occupations. Some occupations require more hours per week, especially sales and retail store occupations. The forty hours is usually worked over a period of five days. A normal work day is eight hours. Frequently, persons working more than forty hours a week receive additional pay, known as overtime pay.

Several trends affecting the work week are currently underway. One of these trends involves working forty hours during a four-day period. Ten hours are worked each day. In the larger cities, a number of retail stores are employing persons to work on the weekend and two other days only. The reason: Retail stores have a much larger volume of business on the weekend than during the week.

Another trend is to reduce the work week to less than forty hours. Certain industries, especially mining, are moving in this direction. In the not-too-distant future the work week may be reduced to thirty-five hours—five days at seven hours per day.

The trends in length of work-week mentioned here affect persons employed in all except the professional occupations. The length of work week for professional workers has not been reduced. It appears that it will not be reduced in the near future. In fact, many persons in professional occupations work considerably more than forty hours per week.

View of Workers and Working Conditions in a Modern Cabinet Plant. (Courtesy MPI Industries, Jackson, Mississippi.)

Working Hazards. Certain occupations have more risk of physical danger than others. Employers are increasingly concerned with the safety and welfare of their employees. Laws have been passed to aid in protecting workers from danger. These apply to the wearing of certain clothing, inspection of the area in which the work is performed, and other conditions of work. A problem in some industries is noise. Sometimes the noise will become so great that the hearing of workers is damaged. Ear plugs or other devices are frequently used. An example of this is work with a ground crew at an airport where jet planes taxi about. With increased automation and use of powered equipment, noise is likely to become a greater problem. Currently, various regulations limiting noise are being imposed in an attempt to reduce the danger excessive noise may cause.

Working Environment. There are two main areas of work environment: (1) social and (2) physical. The social conditions of work refer to the relations of workers with each other. The tendency is for businesses to become larger with more workers. It is necessary that one be able to work well with other persons. This requires patience, understanding, and a willingness to help the others.

Physical conditions of work include temperature, humidity, dust, and fumes. The trend is for inside places of work to be air-conditioned and humidity controlled. Dust and fumes are removed from inside work areas by exhaust fans. It is not as easy to control the environment of outside work; neither is it as critical since dust and fumes are moved away by wind. More emphasis is being placed on pollution; therefore, industries will need to install devices which make exhaust fumes and other by-products harmless.

Nature of Work. This refers to what one actually does at work. Business and industry are becoming more automated. The equipment and machinery being used will become more complicated. This means that workers must have greater knowledge and skill. Workers must also be flexible and willing to adjust to new equipment.

The trend toward increased automation will replace some of the jobs involving considerable hand labor. More service-producing occupations will arise. The proportion of workers in goods-producing occupations will decline. More persons will work in occupations that "care for people," i.e., health and recreational occupations. In short, the world of work is becoming more "people-oriented."

6. What is the place of labor unions in the world of work?

⑧ Many workers belong to labor unions. **Labor unions are the agents, or go-betweens, for workers in dealing with their employers. The purpose of unions is to secure benefits from employers for employees. Members of unions feel that they receive job security and protection through membership. Wage increases and other benefits frequently have come about as the result of union activity.** More than 20 million persons now belong to unions in the United States.

The process used in securing benefits is known as "collective bargaining." The right of workers to bargain as a group is protected by law. In order to bargain, the union must be recognized by the employer as the negotiating agent. This is known as "recognition." Items frequently included in bargaining are wages and fringe benefits. Power used by workers to gain demands is in the form of strikes and related pressure tactics. The outcome of bargaining is a "contract" which contains a list of specific agreements. A contract also usually contains a grievance procedure.

Unions were started by tradesmen in an attempt to secure improved working conditions. Some of the first groups to unionize were concerned with carpentry, shoemaking, and printing. Today, unions include many different occupations ranging from the unskilled to the professions.

A brief outline of the historical development of labor unions in the United States is shown below:

1778	New York City printers negotiate an increase in wages.
1791	Philadelphia carpenters strike for a 10-hour-day and additional pay for overtime.
1834	First attempt to form a national labor federation.
1842	Labor unions held legal by Massachusetts courts.
1868	First 8-hour-day law by federal government.
1870	First written contract between coal miners and operators.
1874	First use of union label made by cigar makers.
1882	First Labor Day celebration.
1886	AFL formed.
1902	Significant strike by mine workers.
1916	Child Labor Law enacted.
1931	Davis-Bacon Act provided for the payment of prevailing wage rates to construction workers on government contract.
1933	National Industrial Recovery Act endorsed collective negotiations.
1935	CIO formed.
1940-1947	Unions became very powerful and held many strikes.
1947	Taft-Hartley Act passed to restrain power of unions.
1948	Mississippi became the 48th State to enact workmen's compensation laws.
1955	Merger of AFL and CIO.
1962	Executive Order 10988 was issued by President Kennedy guaranteeing federal employees the right to join organizations. The right to strike was denied.
1965	Mississippi enacted a "Right to Work" Law.
1971	President Nixon suspended the Davis-Bacon Act. (Repealed)

Labor unions are organized so that there are local, national or international, and federated unions. Direct membership is held in local unions. Membership is indirect in national and federated unions. Dues are paid for union membership. Part of the dues goes to the local and part to the national unions. Dues may be deducted by the employer from the pay check. This is known as "check-off." Dues may be as much as $30 or more each month.

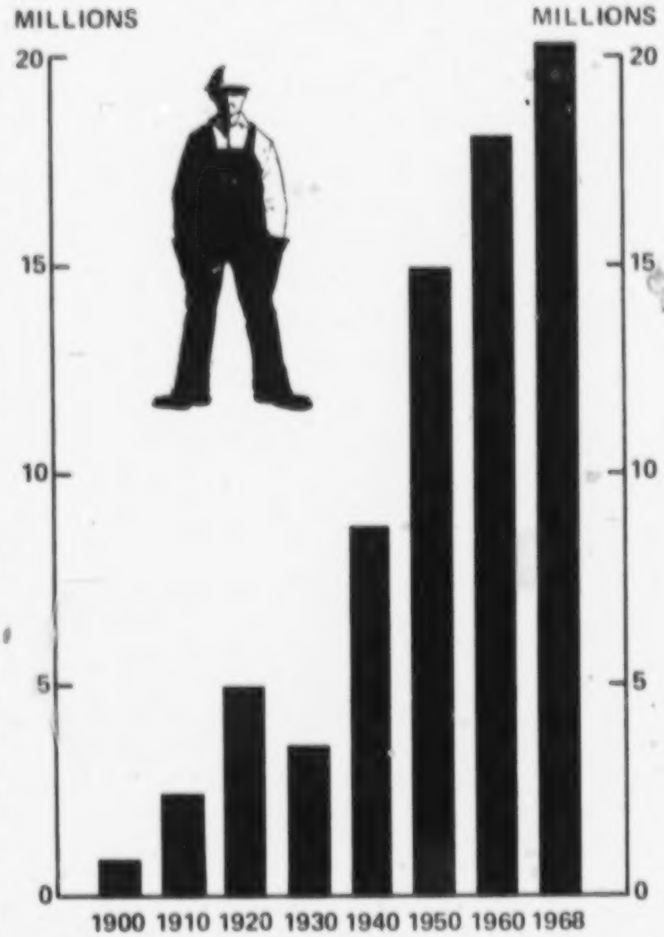
Most labor unions are now affiliated with the AFL-CIO. This giant union was formed by the merger in 1955 of the AFL (American Federation of Labor) and CIO (Congress of Industrial Organizations). The AFL was founded to further the interests of skilled workers in certain occupations. It limited itself to craft or trade members, such as welders and carpenters. The CIO was founded to represent all workers in an industrial union with membership not related to any specific skill, but including all workers in an industry. Unions not affiliated with the AFL-CIO are known as "independent unions."

Local unions usually employ a small staff to handle the affairs of the union. A "business agent" is employed as the general manager of the local. If necessary, the business agent may have one or more assistants. Within businesses, "shop stewards" may be elected to observe working practices. In effect, the shop stewards work right along with the other workers but watch for violations of provisions of the contract.

Unions usually represent workers employed at levels less than managerial. Not all businesses have workers who are members of unions. An "open shop" is a business which does not require union membership for beginning or continuing employment. A "closed shop" is a business which employs only union members. Under certain conditions closed shops may hire persons who are not union members provided membership is sought before beginning work. In Mississippi, it is unlawful for a closed shop to operate. A person is not to be denied work on the basis of membership or nonmembership in a union. This is known as the "Right to Work" Law.

Collective bargaining is not limited just to unions. Some professional organizations recently have become active in bargaining. In addition, some of the unions now include professional workers in their membership.

Trend in Union Membership



(Courtesy U.S. Department of Labor, Bureau of Labor Statistics.)

7. What is the place of apprenticeship training in the world of work?

Apprenticeship training is used to train people in certain trades. It involves learning on the job under the supervision of a skilled craftsman. Normally, an agreement between employer and employee is used to insure adequate training. Labor unions may be active in apprenticeship training programs. Apprenticeship varies considerably in different parts of the United States. It is not as formal in Mississippi as in some other states.

Certain terms common to apprenticeship training are as follows:

⑨ Apprentice—one who is learning an art or trade in an apprenticeship program.

Journeyman—a worker who has learned an art or trade, usually in an apprenticeship program.

Journeywork—work done by a journeyman.

Masterbuilder—a highly skilled worker who is qualified to supervise building construction.

Master mechanic—a mechanic who is a thorough master of his trade. He may be a foreman mechanic.

Foreman—the chief worker in a crew, gang, or department.

In apprenticeship training, it is important that a formal written agreement be used. If no written agreement exists the apprenticed worker may not receive sufficient training. When no agreement to train an apprentice exists he is correctly designated as a helper or learner. An apprenticeship agreement should cover the following:

(1) Schedule of work—A schedule listing the tasks and skills to be learned should be used. Normally, skills learned at first are simple, and gradually become more complex.

(2) Supervision—An apprentice should be under the supervision of a qualified journeyman.

(3) Related instruction—Instruction related to the skills of the trade should be provided in a vocational school or within the business. A minimum of 144 hours each year of the apprenticeship is usually required.

(4) Program registration—An apprenticeship program should be registered with the appropriate governmental agency.

(5) Wage schedule—A wage schedule should be used that contains gradual increases until journeyman is reached.

To be eligible for an apprenticeship program, several requirements must be met. Usually, a high school education is needed. By attending a vocational school the length of the apprenticeship period can be reduced. An apprentice should be in good health and be 16 to 24 years of age. It is best if the person is interested in mechanics and has a background in mathematics and science. It is a good idea for an apprentice to be recommended by a person already in the trade rather than an outsider to the trade.

Several trades that require apprenticeship and the number of years required are shown on the next page:

Trade	Years of Apprenticeship
Agricultural equipment mechanic	3-4
Airplane mechanic	3-4
Automobile body repairman	3-4
Automobile mechanic	3-4
Baker	3
Barber	2
Brewer	2-3
Bricklayer	3
Butcher	3
Cabinetmaker	3-4
Candymaker	3-4
Carpenter	4
Electrician	4-5
Glazier	2-4
Jeweler	3-4
Lithographer	4-5
Mason	3
Painter	2-3
Plasterer	3-4
Printer	5-6
Plumber–pipefitter	4-5
Roofer	2-3
Tailor	4
Tile setter	3

8. What wage payment practices are followed?

Wage payment practices vary considerably. Variation is not only found between different occupations but also between employers. The length of pay periods varies as well as the bases for payment.

A "pay period" is the length of time from one pay day to another. Pay periods are usually one week, two weeks, or one month in length. Occasionally it may be one day; that is, workers are paid at the end of each work day. Mississippi law specifies that workers in certain industries must be paid every two weeks. Pay may be in the form of a warrant (check) or cash. Part of the pay may be in goods or services. An example is when an employer provides free housing for an employee. However, such housing is frequently a fringe benefit.

In general, wages are paid in one of three ways: (1) hourly rate, (2) piece rate, and (3) salary. A combination of any two of these may be used. The earnings of self-employed persons are partially determined by all three.

Hourly Rate. Workers may be paid on the basis of the number of hours they work. Normally a worker will work 40 hours per week. In many jobs persons working more than 40 hours are entitled to overtime pay. Overtime pay applies only to the hours worked above 40. The rate is 1½ times the regular rate per hour. For example, a worker covered by overtime provisions works 45 hours a week. If the regular rate of pay per hour is $2.00, the pay for the week is computed as follows:

40 hours @ $2.00	$80.00
5 hours @ $2.00 multiplied by 1½, or $3.00 per hour	15.00
Total gross wages for a week	$95.00

Examples of occupations in which the hourly rate may be used are: welder, carpenter, mechanic, and typist.

Piece Rate. The piece rate is based on productivity. It is concerned with how many pieces of a certain item are produced or sold. In sales work the piece rate is known as "commission." The worker is paid a percentage of the selling price of goods.

Beginning workers in businesses that use the piece rate may be started at the minimum wage. After a period of training the basis for pay may be changed to the piece rate. Businesses manufacturing goods prefer the piece rate because it is an incentive for greater production. The more a person produces the greater his total wages.

Examples of industries which may use the piece rate are garment (clothing) manufacturers and small appliance assembly plants. Typists may be paid by the piece rate also; that is, so much per page typed.

Sales persons working on a commission basis may also receive a fixed salary. An example of such an occupation is the automobile salesman. These sales persons usually receive a small fixed salary in addition to a commission.

Salaries. A salary is a fixed amount of pay regularly received for work. Professional, technical, and managerial workers are frequently paid on a salary basis. The nature of the work of certain occupations does not make it possible to pay on an hourly or piece rate. In some of the salaried occupations no extra pay is received for overtime work.

Examples of occupations in which salaries may be used are: teacher, secretary, nurse, and accountant.

9. What fringe-benefit practices are followed?

⑩ **Fringe benefits are those received in addition to normal wages or salaries.** They are also known as "fringes," "employee benefits," and "employee services." These additional benefits are provided in order to make certain occupations more attractive to employees. Fringe benefits may also carry responsibilities. It is difficult to place a dollar value on fringe benefits. Benefits vary from one company to another and within occupations. Fringe benefits are paid for by employers. Many times fringes amount to as much as $20.00 for each $100.00 paid in salaries. Fringe benefits can be thought of as something extra received for working. **Some of the more common benefits are:**

Vacations—May be either paid or unpaid. A paid vacation is one in which the worker continues to draw a salary while on vacation. Length varies from one to three weeks or more each year. Employees must usually work for a while before being eligible for vacations. Unused vacation days may accumulate from one year to another. Policies regarding vacations vary considerably.

Sick leave—Permits a worker to continue to draw a salary when unable to work due to illness. The amount of sick leave is usually limited to several days each year. Unused sick leave may accumulate from year to year. Workers should use sick leave only when sick; some employers require workers to be under the care of a physician to be eligible for sick leave. There is a great deal of variation in sick leave policy.

Retirement—Benefits are to reward workers for a number of years of service. The age at which persons retire varies; however, it is usually age 65. Some employers base retirement on the number of years of work, usually 20 to 30. Retirement benefits are paid for by both the employee and employer. A worker may increase his retirement benefits by making larger contributions during his working years.

Social Security—Ninety percent of all workers are covered by the Social Security Law passed by Congress in 1935. Each worker is assigned a number known as his social security account number. A person's name may change by marriage, adoption, or court order, but his number remains the same. Social Security is administered by the federal government. The money to finance the program is obtained by a payroll tax levied on employees and their employers.

Additional Training and Education—A majority of companies encourage their employees to further their education and will pay part, or in some instances the entire cost, of this education. The most common way of obtaining additional education or training is by attending night classes, frequently in a vocational and technical school. This training can also be obtained from correspondence courses. Some companies offer in-service training for their employees.

Rest Periods—Most companies provide a 10- or 15-minute break twice daily, morning and afternoon. Refreshments may be free or the employee may be required to pay a small cost, depending upon the policy of the company. Rest periods are also known as "coffee breaks."

Insurance—Group insurance plans are offered by many companies. The insurance coverage is extended to the employee's immediate family (including husband or wife, sons and daughters). Coverage frequently includes life insurance, accident and sickness insurance, disability benefits, hospitalization and surgical coverage, and surgical benefits for dependents.

Other benefits that are commonly found are:

Profit sharing
Parking facilities
Unemployment insurance
Paid holidays
Recreation facilities
Cafeteria service
Credit unions
Sabbatical leave
Travel allowances

10. What legal regulations apply to workers?

Laws have been enacted to protect both employers and employees. Such laws help to improve the conditions of work. It is possible to divide the legal regulations pertaining to work into groups: State and Federal.

State Legal Regulations

The following is a list of the major features of the laws of Mississippi pertaining to work:

1. Denial or abridgement of work—The right of a person to work shall not be denied or abridged on account of membership or nonmembership in any labor union or labor organization ("Right to Work" Law).
2. Officers of labor unions—Aliens, communists, or persons convicted of certain crimes are prohibited from holding offices in labor organizations or participating in labor-management functions.
3. Work of children—No boy or girl under the age of 14 years shall be employed or permitted to work in any mill, cannery, workshop, factory, or manufacturing establishment. These provisions do not apply to a fruit or vegetable cannery.
4. Hours of work—No boy or girl between the ages of 14 and 16 years shall work in any mill, cannery, workshop, factory, or manufacturing establishment more than eight hours in one day, or more than 44 hours in any one week. Persons of this age are not to work in or be detained in any of the above establishments between the hours of 7:00 p.m. and 6:00 a.m.
5. Hours of work for women—No female is to work over ten hours a day or 60 hours a week, except in case of an emergency. This does not apply to domestic servants.
6. When to pay certain employees—Businesses engaged in any kind of manufacturing which employ 50 or more workers shall pay their employees every two weeks or twice during each calendar month. The pay dates frequently used are the second and fourth Saturday. This same provision applies to public service corporations.
7. Discounting checks—The full amount of a trade check issued in payment for labor shall be paid to an employee. No discounts are permitted when the check is exchanged for cash.

Federal Legal Regulations

The major federal law relating to workers is the Fair Labor Standards Act. This law was originally enacted in 1938. Since enactment it has been amended several times.

The Fair Labor Standards Act applies equally to men and women. Workers in factories, offices, and homes are covered. Some agricultural occupations are not included. All sizes of businesses are included. Both full- and part-time workers are covered. Five areas are included: (1) minimum wage, (2) maximum hours, (3) overtime pay, (4) equal pay, and (5) child labor standards.

1. Minimum wage—This provision specifies the minimum wages that can be paid. The minimum hourly wages for most occupations is $1.60.

The minimum for certain agricultural work is $1.30. Certain types of workers may be paid at a lower rate.

2. Maximum hours—The maximum hours provision is concerned with overtime. A normal work week is 40 hours.
3. Overtime pay—Workers who work more than 40 hours per week must be paid 1½ times the regular rate of pay for all hours over 40. Certain agricultural work is exempt from overtime provisions.
4. Equal pay—All workers are to be paid at the same rate for the same work. Employers cannot discriminate on the basis of the sex of workers. Different rates of pay may be used if the difference is based on seniority, merit, or production. This provision is applicable to all workers subject to minimum wage provisions.
5. Child labor standards—Sixteen years of age is the minimum for employment in most occupations. This includes agricultural work during school hours or any agricultural occupation declared to be hazardous. A minimum age of 18 is applied to hazardous nonagricultural occupations. Persons who are a minimum of 14 years of age may work outside of school hours in certain nonmanufacturing and nonmining occupations. The Secretary of Labor determines which occupations are hazardous. The child labor provisions do not apply to persons under age 16 employed by their parents in agricultural or in nonmanufacturing and nonmining occupations.

Two other recent federal laws applicable to workers are the Federal Wage Garnishment Law and the Age Discrimination in Employment Act.

1. The Federal Wage Garnishment Law became effective July 1, 1970. This law limits the amount of an employee's earnings which are subject to garnishment. It also protects a worker from dismissal because of garnishment for any one indebtedness. "Garnishment" refers to a legal procedure for withholding money from a pay check to pay a debt. Not more than 25 percent of the disposable weekly earnings may be withheld. "Disposable earnings" refers to the amount remaining after income tax, social security, and the like, have been deducted.
2. The Age Discrimination in Employment Act is designed to protect workers between the ages of 40 and 65 years. It applies to employers with 25 or more members, and employment agencies serving these employers and unions. Only the businesses involved in some way in interstate commerce are covered. This act was passed in 1967.

Additional information on the legal regulations affecting workers is available from:

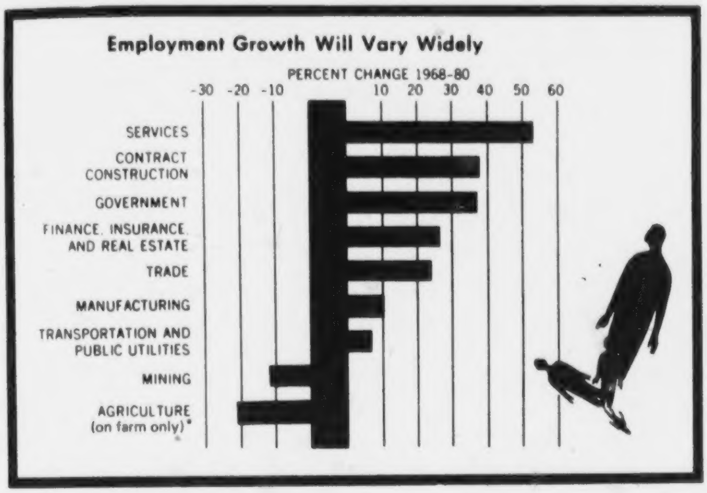
State: Mississippi Employment Security Commission
P. O. Box 1699
Jackson, MS 39205

Federal: U.S. Department of Labor
Room 675 Milner Building
210 South Lamar Street
Jackson, MS 39205

11. What occupations are most promising? Least promising? Why?

⑪ Changes in the world of work occur. These changes cause some occupations to gradually go out of existence. Also, new occupations emerge. It is usually easier to advance in an emerging occupation than in older occupations which are declining.

The greatest growth in jobs in the next few years is expected to occur in the service areas. Employment by various levels of government will increase. Recreational industries are expected to grow considerably in the years ahead. Currently, much emphasis is being placed on pollution, ecology, and environment. Occupational opportunities will probably grow rapidly in these areas. The trend is also toward more white-collar occupations. The illustration below depicts the predicted change in employment in 1980 from 1968.



(Courtesy U.S. Department of Labor.) *Amended.

The decline in agricultural employment shown in the above chart relates only to the number of farmers and farm laborers. Although farm employment is expected to drop sharply in the next decade or so, farm output is forecast to rise by about one-third from 1970 levels. Such increases in farm output will necessitate steady increases in employment in agricultural services and industries, many of which are included in other employment categories of the chart. In this way the chart distorts the expected growth in employment opportunities for those professionally trained in the many phases of agriculture.

Workers are needed as replacements. Older workers retire and die, making room for younger workers to enter and advance in an occupation. The amount of formal education necessary to replace a retiring worker has increased and is continuing to increase.

In addition to the future of a particular job, consideration should also be given to how well one is able to advance to other jobs. Some jobs are said to be "dead-end." That is, they do not lead anywhere. Dead-end jobs are important in the world of work but usually do not provide opportunities for advancement. Some jobs are said to be "status quo." In these, opportunities are available but the potential for growth is limited. Other jobs are said to have a bright future. These are the jobs which will provide the greatest opportunity for advancement and progress. Railroad and mining jobs are examples of "dead-end" jobs. Pharmacist, mason, and baker are examples of "status quo" jobs. Examples of bright future jobs include physician, attorney, and dentist.

12. What relationship does citizenship have to the world of work?

Persons who are successful in the world of work usually have a basic understanding of citizenship. Successful workers usually make contributions of time, energy, and money to community activities. They also derive benefits from these contributions. Thus citizenship is both a giving and taking process.

Citizenship is made up of many things. It begins with worthy home membership and self-respect. If a person does not have respect for himself then no one else will have respect for him. Self-respect encompasses such things as punctuality, personal appearance, self-confidence, honesty, and other related traits.

The world of work involves many civic responsibilities. These responsibilities may be considered a part of an individual's career. Working with youth groups is a good example. This work may involve managing a baseball team that is sponsored by the employer or taking part in other employer-employee related functions. The time spent in performing these related functions can be both educational and rewarding.

Good citizenship involves registering and voting in local, state, and federal elections. The voting right is abused when it is not used. The right to vote has many responsibilities and should not be taken lightly. Voting is both a right and a privilege and is the responsibility of every citizen of this country. Many states now allow 18-year-olds to vote. Students can begin their voting responsibilities by taking part in the school election of class officers, favorites, and other similar activities.

A person who practices citizenship will be better able to take his rightful place in the world of work. He will be well on his way toward becoming a better citizen.

13. What is the role of avocational interests?

⑫ **Avocational interests are interests other than those concerned with an individual's occupation.** Such interests are commonly known as "hobbies" or "leisure-time activities." These are to be contrasted with vocational interests.

It is important that work be balanced with play. Leisure time activities are not a waste. Actually, the efficiency of a worker may be increased by diverting some time to activities other than work. The health and well-being of an individual are also related to the way time is used. In essence, "variety is the spice of life."

Activities for leisure may be with groups or on an individual basis. Activities with other persons have a definite place in each person's life. Group activities should usually be balanced with individual activities. Also, a certain amount of physical exercise is needed for health purposes. Various leisure activities can produce the needed exercise. Individual activities are also beneficial. Almost everyone needs a place and time in which to be by himself for thought and reflection.

Examples of avocational, or leisure time activities are as follows:

Collecting (stamps, coins, bottles, etc.)
Sports
Hunting
Fishing
Gardening
Playing cards
Attending theatrical productions
Camping
Hiking
Auto racing
Sewing
Knitting
Boating
Swimming
Skiing
Reading
Painting (art)
Playing musical instruments
Dancing

Goal:

Students should get an overall view of the world of work and the way that work has changed over the years.

After the students have read Chapter III, have them discuss the following questions:

Review Questions:

1. How has the place, or location, of work changed in the United States? p. 9
2. How does technology affect a worker? p. 10
3. How do public and private agencies differ? p. 12
4. What are goods? services? p. 12
5. What levels of work are found in business? Explain each. pp. 12-13
6. What is free enterprise? p. 13
7. What is meant by "workweek"? "overtime"? p. 14
8. What is the main purpose of labor unions? p. 15
9. What is an apprentice? journeyman? foreman? p. 18
10. What are fringe benefits? pp. 20-21
11. Why are some occupations more promising than others? List some promising occupations. p. 24
12. What are avocational interests? p. 25

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. For those who like to read, the following book is suggested:
   The Century of the Reaper by Cyrus McCormick

   Students may discuss how the invention of the reaper has influenced the society in which we live. Have students explain how gathering grain by hand would affect our food supply.

2. Resource persons may be used if appropriate. The following are examples:
   A representative of a local labor union to discuss activities of labor unions.
   A representative of the Social Security Office to discuss what social security is and does.
   A representative of a local industry to discuss levels of employment in the industry.
   A journeyman or master tradesman to discuss apprenticeship programs.
   A representative of the Mississippi Employment Security Commission to discuss wage payment practices or the trend in occupations, i.e., which are most promising and least promising?
   An owner of a small business to discuss some of the experiences and problems encountered by owners of businesses.

   Refer to Appendix D.

3. Select one of the items listed below and learn how it was developed. Prepare a poster or write a paper which outlines your findings.

   - Automobile
   - Television
   - Wheel
   - Telephone
   - X-ray process
   - Sewing machine
   - Heart-lung machine
   - Typewriter
   - Laser beam
   - Gasoline
   - Radio
   - Hybrid corn
   - Or any other invention which interests you

   a. Up-to-date encyclopedias in the school library contain information about these discoveries.

   b. Have students discuss the difficulties which would be encountered if these inventions did not exist. For instance, they might consider the problems of living without electric lights.

4. Investigate the following kinds of businesses. Prepare a report which explains each.

   - Sole (or individual ownership)
   - Corporation
   - Partnership
   - Cooperative

   a. Students may identify businesses in their local community which are organized as individual ownerships, partnerships, corporations, and cooperatives.

   b. Students may discuss the advantages and disadvantages of working in businesses which operate under the above mentioned types of ownership.

5. Divide the class into several small groups. Each group is to establish a fictitious partnership, corporation, or cooperative to manufacture a product or provide a service. The legal aspects and functioning of the particular kind of business to be formed should be investigated. The procedure for establishing the business should be outlined in a paper or report to the class.

6. Interview persons employed in different levels of work. Inquire as to how each level relates to the others. Determine how advancement occurs.

   a. Refer to Appendix F.

   b. Students may interview employees at different levels of work in the same company. The students should realize that each level of work is necessary in running a business and should not minimize the importance of jobs at the lower levels. They should also learn that most companies require that a person start at the bottom.

7. Develop a list of occupations in your local community for which a period of apprenticeship is required. Determine the normal length of apprenticeship.

   Students may use the trades that require apprenticeships listed on page 19 as a starting point in developing their list.

8. Develop a report which describes how the average worker's kind of work has changed in Mississippi. Start your report at a time prior to 1800.

Students may be divided into three or more groups to discuss various work areas in which change has occurred, such as farming, industry, and homemaking.

9. Develop a report which describes how transportation, i.e., the automobile, has changed where people work and what they do at work.

10. How has the use of land within one mile of your home changed in the last five years? Report your findings to the class.

11. Make a list of new businesses that have opened in your local area in the last year. Determine the kinds of jobs found in them.

The local Chamber of Commerce may provide such a list.

12. Compile a list of all the avocational, or leisure time interests of students in your class. Place a check (✓) by those in which you participate or would like to participate.

Have students determine which of these leisure time interests may lead to part time or full time employment.

Additional Activities:

1. This exercise is designed to help students become more fully aware of the financial obligations assumed by a person when he begins to support himself and others.

   > Charley has just begun his senior year at Jones High School. He has played on the varsity football and basketball teams for the last two years and has maintained a C-plus average throughout high school. Charley has been dating Sue, who is a year younger. Charley and Sue care for each other a great deal and would like to get married as soon as possible.
   >
   > Charley is thinking about dropping out of school and working at the local factory which manufactures men's work pants. He could start out making $2.00 an hour working as a stockman. Charley feels that a husband should support his wife and prefers that Sue stay at home after they get married.

   a. Compute what Charley's weekly and monthly salary would be if he went to work for the factory.

   b. Estimate how much Charley's take-home pay would be. Deduct estimated income tax, social security, unemployment insurance, group insurance, and retirement.

   c. Deduct from Charley's take-home pay the expenses he would have if he got married. Expenses might include rent, utilities, food, car payments, car upkeep, clothing, payments on appliances and furniture, medical and dental care, etc. See if you can think of other expenses which Charley might have.

   d. Do you think Charley and Sue should get married at this time?

2. Many jobs require a person to move from place to place. Have the class share their feelings toward new situations. For example: How did they feel as new students in high school; in a new school system; in a new or different town or state? What are their attitudes about being new or different?

3. Many beginning workers are surprised when their take-home pay is considerably less than their gross salary. So that students may become familiar with the type of deductions which will be taken from their paycheck when they go to work, have them complete the following exercise in computing the take-home pay for each employee of a retail store.

Employees	Gross Pay	Deductions						Take-home Pay
		Federal Income Tax	Social Security	Unemployment Insurance	Group Insurance	Payroll Savings	Retirement	
Paul Griffin Store Manager	$150.00	$25.37	$7.50	$1.00	$10.00	$20.00	$3.00	
Ruth Hughes Office Manager	85.75	7.63	4.30	.55	5.00	5.00	1.60	
John Clarke Stockman	73.45	5.25	3.65	.45	5.00		1.40	
Don Goodrich Janitor	52.65	2.50	2.60	.30	5.00		1.00	
Evelyn Hall Salesperson	64.50	4.83	3.20	.35	5.00	2.00	1.20	
Rose Johnson Salesperson	70.25	6.25	3.50	.43	5.00		1.35	
Sue Minor Salesperson	53.40	3.20	2.65	.33	5.00	3.00	1.15	
May Campbell Salesperson	68.85	5.85	3.45	.40	5.00	1.00	1.30	
Gertrude Black Salesperson	74.30	6.35	3.70	.47	5.00		1.50	

4. This device may be used as a pre-test of student attitudes. It could serve as a guide for class discussion.

OPINION POLL — A SUGGESTED EVALUATION INSTRUMENT*

DIRECTIONS: This opinion poll is concerned with your "feelings" about working situations. Check those statements with which you tend to agree in the first column; check those with which you tend to disagree in the second column.

		Tend to Agree	Tend to Disagree
1.	Pay is the most important consideration when deciding upon a job.		
2.	If a typist gets her required work done ahead of time she should be able to leave the office early.		
3.	Being an "eager beaver" is the way to succeed on a job.		
4.	Supervisors have the right to criticize employees about their clothes.		
5.	Salespeople should be allowed to chew gum if they enjoy it.		
6.	It takes careful planning to be punctual.		
7.	Wearing metal hair clips to work is considered poor grooming.		
8.	One should attempt to establish close relationships with co-workers early in employment.		
9.	It should be permissible to make personal phone calls if work slackens.		
10.	A worker's criticism of a superior is harmless, providing it is done in private.		
11.	Employees have the right to talk back to their superiors whenever they feel they have been treated unjustly.		
12.	Employees should be able to have inexpensive business supplies for personal use without feeling guilty.		
13.	Failure to notify an employer when absent from work is a major offense.		
14.	Getting along well with people is just as important as the ability to do a job well.		
15.	Griping is a harmless way of getting rid of unhealthy emotions.		
16.	Most jobs are boring.		
17.	During periods when work slackens it is wise to "look busy."		
18.	Education and training are over-estimated by employers.		
19.	Workers should not attempt to do something unless they are specifically told to do so.		

*"Pre-Employment Unit, Grade 7," Illinois Teacher, XI, No. 4 (Spring, 1967-68), p. 300. Printed with permission.

Suggested Review Survey:

Circle the best answer.

1. A degree from a four-year college is required to enter:
    a. skilled jobs
    b. technical jobs
    c. professional jobs
    d. semi-skilled jobs

2. No special education or training is required for:
    a. semi-skilled jobs
    b. unskilled jobs
    c. technical jobs
    d. professional jobs

3. Apprenticeship, on-job work, or attending a vocational school is usually required for:
    a. unskilled jobs
    b. semi-skilled jobs
    c. skilled jobs
    d. technical jobs

4. Two years of schooling beyond high school is usually required for:
    a. semi-skilled jobs
    b. skilled jobs
    c. technical jobs
    d. managerial jobs

5. The trend in recent years has been for business to:
    a. grow larger in size and smaller in number
    b. grow smaller in size and larger in number
    c. grow smaller in size and and smaller in number
    d. grow larger in size and larger in number

6. Most occupations have a workweek of:
    a. 32 hours
    b. 50 hours
    c. 45 hours
    d. 40 hours

7. The process of securing benefits for workers by unions is known as:
    a. featherbedding
    b. security contracting
    c. recognition proceedings
    d. collective bargaining

8. Benefits received in addition to normal wages or salaries are known as:
    a. fringe benefits
    b. employee benefits
    c. employee services
    d. all of the above

9. In which of the following areas of employment is greatest growth expected?
    a. services
    b. manufacturing
    c. agriculture
    d. trade

10. Interests other than those concerned with an individual's occupation are called:
    a. avocational interests
    b. hobbies
    c. both of these
    d. neither of these

Answers to suggested review survey: 1, c; 2, b; 3, c; 4, c; 5, a; 6, d; 7, d; 8, d; 9, a; 10, c.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Free Printed Materials:

APPRENTICESHIP TECHNICAL INFORMATION 104 a

JOBS FOR WHICH APPRENTICESHIP TRAINING IS AVAILABLE 167 a

SHOULD YOU GO INTO BUSINESS FOR YOURSELF? 136 n2

WHY NOT BE AN APPRENTICE? 169 b

Supplementary Books and Pamphlets:

WHAT TO DO AFTER HIGH SCHOOL 237 e

Filmstrips:

IF YOU'RE NOT GOING TO COLLEGE 241 f

WHAT YOU SHOULD KNOW BEFORE YOU GO TO WORK 241 r

IV. Determining How To Be A Success

You can be a success! Most people want to be successful in their jobs. People should attempt to enter occupations in which they believe they will be successful. Success depends upon a number of things. After entering an occupation, the way the duties are performed will ultimately determine success.

The following questions will be answered in this unit:

1. **What is success?**
2. **What is motivation? How is it related to success?**
3. **What are the causes of failure in work?**
4. **How can failure in work be prevented?**
5. **Why is it necessary to plan a career?**

1. What is success?

Everyone wants to be successful. Success for an individual is gradually achieving the goals that he has set. These goals are set by the individual himself and not by someone else. An individual should set his own goals, since he is the one who must achieve them. Goals should be realistic and challenging. They should also be revised from time to time. Goals that were set a little too high may need to be lowered. New goals are needed when old goals are achieved.

Success is measured in different ways. To some persons success is doing work efficiently and getting promotions. Others measure it in terms of material wealth. And others, especially young workers, frequently measure success in terms of how quickly they are able to obtain a sporty new automobile. Each person needs to formulate for himself his own personal definition of success.

One of the first successes in the world of work is simply getting a job. Some people have difficulty achieving this first success. A good example is the unemployed person. A person cannot be successful in the world of work until he has a job.

Success with a job depends upon how it is performed. The key to success is a positive attitude. The productivity of a crew or department may be related to the attitude of its individual workers. If a person likes his work, he will usually have a positive attitude. To be a success, it is essential that a person like most of the activities connected with his work.

A successful worker looks for ways to be a success. He looks for ways to do a job, not reasons for saying it cannot be done. He does the best he can with every task.

Success is related to progress on the job. Promotions are given to those who have shown that they have the ability to get a job done. Likewise, increases in pay are associated with productivity.

① People who are successful usually attribute their success to hard work. Enthusiasm for work and the ability to stay with a job even when it is difficult are important. Good health is desirable. However, persons with handicaps are frequently highly successful. Successful people usually indicate that luck is not very important. Sometimes it appears that people do get "breaks." But a person must be properly prepared and motivated to make the most of a "break" when it comes.

② Dignity is to be found in almost all occupations. Some of the occupations which are looked down upon by certain people are vital to the existence of man. For example, the garbage collector is essential. Without someone to pick up trash and garbage, our country might soon fall apart. Diseases and pests would increase tremendously. Much illness and many deaths would result. The successful worker remembers that there is dignity in all work and attempts to perform well.

2. *What is motivation? How is it related to success?*

Motivation is the incentive to do a given thing. It has to do with the direction and control of human energy. A person who vigorously goes about a job is often said to be highly motivated. Motivation is closely related to success. It is associated with ambition and the desire to get a job done.

Motivation is affected by a number of factors. Most important is the environment in which work is done. The attitudes of fellow workers affect motivation. Supervisors and foremen have considerable influence on the level of motivation among workers. Complimenting fellow workers on a job that is well done will increase their motivation. It also enhances the productivity of a work group.

Success motivates people. Success in a beginning job frequently results in people doing more and better work. In brief, they are more productive. Increased productivity may result in pay increases and promotions. Just as success motivates people, motivated people are more likely to be successful.

Persons who lack sufficient motivation may not be successful in their work. In fact, motivation largely determines whether a person succeeds or fails in the world of work.

3. *What are the causes of failure in work?*

A person may fail in his work for a number of reasons. He might be a failure in a particular job and yet be successful in a career. Sometimes the success or failure of an individual may be beyond his control. This, however, is usually not the case. A person determines his own future through the way he works and his attitudes toward work and his fellow workers.

It is important to think positively—to think about success. With this in mind, a brief list of some of the things that might contribute to failure in work is presented below:

③
Lack of ability to get along with people
Lack of education, skill, and confidence
Lack of ability to adjust to change
Lack of maturity and common sense
Poor attitudes toward work
Improper dress and personal appearance
Dishonesty
Addiction to drugs, alcohol, etc.
Lack of productivity
Dissatisfied family
Choice of marriage partner

4. *How can failure in work be prevented?*

Failure in work may be due to the personal traits of an individual. It may also be due to a lack of planning and preparation for entering the world of work. Some factors that contribute to success are discussed below.

④ *Ability to get along with people.* More people lose their jobs because they do not get along with people than for any other reason. To get along with other people a person must first attempt to understand himself. If an individual understands himself, he is better able to adjust his behavior toward other people. Another important aspect of getting along with people is to look for something to like in them. Be interested in them. Show them you are interested. Be sympathetic, understanding, helpful, and complimentary.

Willingness to learn. Changes are constantly taking place in work. Successful workers must readily adjust to change. A worker needs to be flexible and to learn new ways of performing a job. Workers must also be willing to learn the way employers want work done.

Enthusiasm. A successful worker shows enthusiasm for his work. He also shows enthusiasm for the company that employs him. Enthusiasm is observed as positive energy. It is developed by concentrating on the features of work that are liked best. Of course, a worker does not always like everything about his work, but the dislikes should not be exaggerated.

Dedication to work. Success is closely associated with hard work and belief in the value of what one is doing. Persons who always do the very best they can on a job are more likely to be successful. They are the first to be considered for promotions and pay increases.

Knowledge of abilities. It is important to know what one can and cannot do. Jobs that are definitely beyond the ability of a person should not be readily accepted. If a worker is assigned a task he cannot do, he should tactfully explain that he cannot do it to the foreman. On the other hand, lack of ability should not be used as an excuse to avoid work. A successful worker is willing to try something new and always does the best he can with any job. He sticks with a job until it is done. A "quitter" is not successful.

Respect for the employer. A successful worker respects his immediate superivsor, commonly known as "the boss." A worker should attempt to please and do the job according to instructions. Work regulations should be followed as closely as possible. For example, if an employer expects workers to be at work at 7:00, they should be there by 7:00.

5. *Why is it necessary to plan a career?*

Career planning is one of the most important problems facing youth. It should start early. Students need to begin thinking of their careers while in elementary school. The last two years of high school may be spent in specific career preparation. High schools usually offer students a choice of subjects. Subjects may be vocational, college preparatory, or a part of general education. Careful consideration should be given to the courses taken. Regardless of the selections, the courses taken will ultimately contribute to career development.

Career plans need not be rigid but should allow for change. The changes may be brought about by the development of new interests, financial ability, demand for workers, and other factors. The average worker may change jobs six to eight times during his working career. These changes are normally from one occupation or job to another and do not represent a
⑤ change in career. Individuals who have made proper career plans will be less likely to change careers. Career planning also aids individuals in advancing.

There are several considerations in planning a career. Probably the most important is that one knows and understands himself. An individual should give careful consideration and honest appraisal to his personal traits. This appraisal should be complete and thorough. **A knowledge of one's self will make career planning more meaningful and, above all, more accurate.**

The actual process of career planning begins with securing information about occupations. Acquisition of occupational information should be started early in life and be continued throughout a career. Such information is available from different sources: parents, friends, newspaper articles, teachers, counselors, and others. One must evaluate information from the various sources. Some career information may be misleading if it is oriented toward recruiting persons into the career being discussed. All occupational information must be read and interpreted with this in mind.

Individuals who do not plan their careers may wander aimlessly in the world of work. Also, persons who make selections and later change their minds may find that time and money have been lost in securing unnecessary education or training.

It is possible to compare a career with an automobile trip. Suppose a person wants to take a trip in an automobile. If the place is one to which he has never been before, he will want to plan his trip. A road map will be needed. On the map, it will be necessary for him to determine where he is presently located and where he wants to go. The next step is to plot the trip carefully. The best highways and shortest route will be chosen. After the trip is started additional information will be obtained along the way. If the new information results in a better route, the travel plans will be changed.

The same general approach tends to be as true in career planning as in planning a trip. Individuals should carefully plan their careers and required education. As new insight is gained along the way, career plans may change.

Goal:

Students should become familiar with the characteristics necessary for success in work and also the characteristics which contribute to failure.

After the students have read Chapter IV, have them discuss the following questions:

Review Questions:

1. What are some factors on which success in a job depends? p. 28
2. What is meant by dignity in work? Explain. pp. 28-29
3. What are some causes of failure in work? p. 29
4. What are some ways of preventing failure in work? p. 30
5. Why should people make plans for their future? pp. 30-31

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Make a list of the most successful people in your community. Indicate their approximate age, the kind of occupation or business in which they are engaged, and how long they have been in that particular occupation.

   The point may be made that for most people success does not come automatically but requires many years of hard work.

2. **Make a list of reasons why people lose their jobs. Count the number of people you know who have lost their jobs for the reasons you listed.**

   Students may discuss the list of reasons on page 29 which contribute to failure in work. They may divide into small groups and discuss how they may personally overcome these characterisitics.

3. **Compile a list of activities or tasks in which you have been successful. Place a check (✓) by those which you believe are related to the world of work.**

   Students might consider activities performed in the home, at school, or in the community. For instance, students may determine how their different school subjects relate to occupations.

4. **Invite a resource person to visit class and discuss how to be successful in the world of work. (The person chosen should be qualified to speak on this topic.)**

   Refer to Appendix D.

5. **List several occupations in which you believe you are interested. Investigate the requirements for entering them. Write on paper the requirements and how the requirements can be met. (Determine if this activity is related to career planning.)**

Additional Activities:

1. Have students discuss the following situation:

WHAT WOULD YOU DO?

Kathy and Angie have been discussing their plans for the future. While discussing these plans, the two girls began to debate the question: "What is success?"

Kathy feels that to be a success one must earn a large salary. Angie feels that enjoying one's job and being able to do it well is the sign of success.

If you were to take part in this discussion, what would you say?

2. Have students discuss the following cases which were clipped from newspapers. These cases illustrate how several men overcame serious obstacles to achieve their goals.

CASE STUDIES*

CASE I. "Expert Who Saved Many from Cancer is Dead of Same Disease"

Dr. Grant B. Ward, sixty-one, cancer expert of Johns Hopkins University, died today of the same disease from which he had saved countless patients.

Dr. Ward overcame a tremendous handicap to continue his career after developing a tumor on the spinal cord of his neck in 1942. The tumor was noncancerous but its removal cut a nerve and deprived him of the power to raise his right hand and to bend his elbow.

Although he could still use the fingers and forearm muscles of his right arm, Dr. Ward's career as a surgeon appeared ended. But with the help of experts in appliances, together with his own determination, Dr. Ward made a steel and leather harness equipped with springs to perform actions of his useless muscle.

To win over his handicaps, Dr. Ward developed certain special skills with his left hand. He asked for no special adjustments in the operating room, except that the table be raised to a higher level. The internationally known expert on head and neck tumors continued performing very difficult and delicate operations.

Question: What were Dr. Ward's Aspirations? What special Abilities did he develop? What Action did he take?

---

*Robert L. Dory and Phillip E. Powell, **Manpower and Economic Education, Opportunities in American Economic Life,** The Joint Council on Economic Education. pp. 2, 3, 204. Printed with permission. Title supplied.

CASE II. The Dropout Who Came Back

Joe Sorrentino has 25 scars on his hands to prove that he is a street fighter. By the time he was 20, he had flunked out of high school four times, had been booted out of the Marines, and had lost 30 jobs. The second oldest of seven children, Joe always wanted to be an "achiever," and in his neighborhood an achiever had to be handy with his fists. A veteran of more than 100 rumbles, Joe was put on probation by juvenile court after one particularly bloody street fight. When he was in his first year of probation, he flunked out of high school. Not long after he enrolled in another high school at night — he failed there also. In a third try at high school he didn't last a semester.

At 14, Joe had begun trying his hand at various jobs, achieving a record for failing which was "better" than even his school career. On his first day of work at a bleach factory, he attempted to carry 10 gallons of bleach to a truck he was loading and dropped all 10.

Joe later worked in a sweater factory, where he had the embarrassing experience of being awakened from a nap by the president of the company. Another job opportunity for Joe came through a furniture company's ad in the newspaper which read: "Want ambitious young man who seeks responsibility." After a month of aligning wheels of teacarts, he got tired of responsibility.

Joe enlisted in the Marines when he turned 18 but could not stand the discipline, and rebelled. He fought with recruits, rioted in the mess hall, and tried to run away. Judged an "incorrigible" by the Marines, he was sent packing with a General Discharge. Back home, he was a hero to his old street-gang buddies. But within himself, Joe felt ashamed. At 20, he came to realize that his only chance for a better life was through education. So he went back to high school, for the fifth time, at night, working days in a supermarket. After two years, he graduated with the highest average in the night school's history.

Despite only fair results on college entrance exams, his grades got him admitted to the University of California. At first, Joe felt he had nothing in common with the college youths who talked about summer vacation and beach parties — things he knew nothing about. But he stuck it out and in his senior year, was elected president of the student body. After graduating with honors, Joe went back into the Marine Crops for two years, feeling that he had to make up for his past record. He did. This time he became a platoon leader, highest scorer in athletic competition, and changed his General Discharge to an Honorable one.

In June of last year, 30-year-old Joe Sorrentino was valedictorian at Harvard Law School. Joe has received several offers to work for major U. S. law firms. Instead, he wants to serve a term as an assistant U. S. or State Attorney in California.

Questions:

1. Identify some of the attitudes and values that Joe had before he finished high school, and compare them with his later outlook on life.

2. What can we learn from Joe's case about job opportunities and the economic rewards that are available in our economic system?

CASE III. Skill and Satisfaction

I'm a die designer. We draw up the prints when somebody has a bright idea for a new die. Dies are tools that are used in the plant for shaping material for machine production. They come around to the planner and ask him whether or not we should work on it. They then give it to us and we have to design a die that will compete with one that they might have had designed outside the firm.

I used to make dies, that's how I got started. I came to XYZ Corporation for my apprenticeship right out of high school. I had a friend whose father was a supervisor and this fellow started in here. In those days employment was tight and it wasn't easy to get a job, but I came in after my friend did. He told me about it and managed to get me in. But I wasn't doing tool and die work then. They started me on the assembly line. I worked on the line nights. But after I was in the plant for a while I looked around and I thought that I'd like to go into die work.

You'd walk into the die shop and it was always so neat and clean. They clean the machines up every weekend. The floors were always clean. Well, one of the supervisors thought I could learn the work so he took me on as an apprentice. I had to take a cut in pay but it was worthwhile.

So I started at the bottom. Along with your work on the job you were supposed to go to school at night. We started there by taking what they called a five year course. I finished it up in 2,800 hours. That meant something. They taught us all that an engineer learns, but from a practical standpoint.

I'm always trying to do the best job I can. XYZ is my company. I'm going to stick with them until they cross me up. Until now they've been very good to me. If the work I do doesn't satisfy them, well, that's just too bad. I always do the best work I can.

When I got back from the Army after the war I thought I should be in a higher position. I never said anything about it but one day the boss called me into his office and he asked me if I wanted to be a designer. I had never been any great shakes at drawing in school but I figured I'd have a go at it. Well, that's what I'm doing today and I'm one of eight in the whole plant. What I draw and design in eight hours makes enough work to keep production men busy for fifty or sixty hours.

The engineers in our firm who are college graduates have to come to me to ask questions. I won't take anything away from them, they're smart. They know all about stresses and strains but when they want something done they have to come to me. That's something I'm very proud of.

Questions:

1. How would you describe this worker's attitude toward his job? Toward life?

2. Do you think this worker has achieved success? Why?

3. This questionnaire may help students to evaluate themselves.

SELF-IMPROVEMENT CHART FOR BOYS*

CHECK THE ONES YOU CAN SAY "YES" TO:

_____1. My hair is clean and shining all the time.
    _____I keep it neat and cut regularly.
    _____I shampoo it at least once a week.
    _____Keep my comb and brush clean.
_____2. My skin is clear and clean.
    _____I wash my face at least twice a day.
_____3. My eyes are clear and bright.
    _____I get plenty of sleep and fresh air.
_____4. My teeth are strong and white.
    _____I brush them after I eat.
_____5. My weight is right for me.
    _____I get exercise every day.
    _____I eat a proper diet.
_____6. My hands, feet, and nails are clean.
_____7. I am always fresh.
    _____I take a bath every day.
    _____I shave every day.
    _____I use a deodorant.
_____8. My clothes fit well.
    _____They are clean, ironed, and mended.
    _____My shoes are polished regularly.
_____9. My voice is clear.
    _____I can talk to other people.
    _____I can listen too.
_____10. I have many interests.
_____11. I smile a lot to help make everyone happier.
_____12. I am cheerful and have a good sense of humor.
    _____I can laugh at myself and with others.
_____13. I have good manners.
    _____I think of other people, not myself.
_____14. I get along with people of all ages.
_____15. I act like a gentleman. I like being chivalrous!

***Arkansas Guide for Vocational Orientation.** (Arkansas State Department of Education), pp. 49-50. Printed with permission.

SELF-IMPROVEMENT CHART FOR GIRLS*

CHECK THE ONES YOU CAN SAY "YES" TO:

______1. My hair is clean and shining all the time.
______I brush it every night.
______I shampoo it at least once a week.
______I keep it neat.

______2. My skin is clear and clean.
______I wash my face at least twice a day.

______3. I choose my make-up carefully.
______I use just enough and not too much.

______4. My eyes shine.
______I get plenty of sleep and fresh air.

______5. My teeth are strong and white.
______I brush them after I eat.

______6. My weight is right for me.
______I get exercise every day.
______I eat a proper diet.

______7. My hands, feet, and nails are smooth and clean.

______8. I am always fresh.
______I take a bath every day.
______I shave my legs and underarms.
______I use a deodorant.

______9. My clothes fit well.
______They are clean, ironed, and mended.

______10. My voice is clear.
______I can talk to other people.
______I can listen too.

______11. I have many interests.

______12. I smile a lot to help make everyone happier.

______13. I am cheerful and have a good sense of humor.
______I can laugh at myself and with others.

______14. I have good manners.
______I think of other people, not myself.

______15. I get along with people of all ages.

______16. I act like a lady. I like being a lady!

To be attractive, sweet and always neat, WORK UNTIL YOU CAN ANSWER "YES" TO ALL OF THESE.

---

*__Arkansas Guide for Vocational Orientation.__ (Arkansas State Department of Education), pp. 49-50. Printed with permission.

Suggested Review Survey:

Circle the best answer.

T F 1. A person should stick to the goals that he has set for himself even if those goals are too high.

T F 2. People who are successful usually attribute their success to luck.

T F 3. The successful worker remembers that there is dignity in all work and attempts to perform well.

T F 4. Motivation is necessary for success primarily in professional jobs.

T F 5. More people lose their jobs because of inability to get along with others than for any other reason.

T F 6. The most important consideration in planning a career is that a person know and understand himself.

T F 7. Career planning should begin during the last year of high school.

T F 8. Careful career planning may aid individuals to advance more quickly in their chosen occupation.

T F 9. The key to success always lies in achieving material wealth.

T F 10. The best occupational information may be obtained from persons recruiting new workers.

Answers to suggested review survey: 1, F; 2, F; 3, T; 4, F; 5, T; 6, T; 7, F; 8, T; 9, F; 10, F.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Supplementary Books and Pamphlets:

DISCOVERING YOURSELF 237 a

FINDING YOUR ORBIT 218 a

Filmstrips:

FOUR WHO QUIT 241 c

YOUR PERSONALITY: THE YOU OTHERS KNOW 241 v

V. Preparing For A Career

Your success in a career will be influenced by the preparation you make for entering it. In turn, the career you select will be determined by the kind and amount of preparation required. A career choice may also hinge on where the necessary preparation may be obtained and how much it will cost. Of course, various sources of financial assistance are available; you will also want to know about these.

The following questions, which will aid you in understanding the preparation for a career, are answered in this unit:

1. **What preparation is needed for entering a career?**
2. **What is the sequence of education?**
3. **Where can education and training be obtained?**
4. **What is the procedure for applying for admission to a college or vocational school?**
5. **How much will the education or training cost?**
6. **What sources of assistance are available for financing education and training?**

① *1. What preparation is needed for entering a career?*

Different careers require different levels of preparation. The level at which employment is begun is largely determined by the amount of preparation one has made for the job. It is also determined by the nature of the career and the demand for workers. In addition, the required skills for *entry* may vary considerably from those needed for *advancement*.

Preparation for a career includes several factors: education, training, experience, and maturity. Educational requirements are of two kinds. The first, basic education, is concerned with the ability to read, write, and perform basic mathematics. The second, specialized education, is concerned with specific education that prepares one for a specific kind of work. Specialized education is sometimes known as vocational training.

Certain kinds of experiences related to work or to a particular career may be beneficial. Included in these are part-time jobs, such as those held after school hours and in the summer. Persons also need to exhibit mature judgment and behavior. Maturity is largely gained through self-discipline and practice.

Today, most jobs require that a person have a high school diploma. Other jobs require education beyond high school from a vocational or technical school, junior college, or senior college. Advancement in a career is related to educational background. The level at which employment is begun is also related to the education and amount of skill the employee has.

Some jobs requiring various levels of education are listed below. For entry, these jobs do not always require the particular level of education indicated, but it is essential for advancement.

Jobs for Which a High School Education is Preferred

Licensed Practical Nurse*
Salesman or Saleswoman
Cashier
Barber*
Shipping or Receiving Clerk
Cook and Chef**
Automobile Parts Counterman
Cosmetologist*
Hospital Attendant
Private Household Worker
Roofer**
Bus Driver*
Taxi Driver
Routeman*
Appliance Serviceman
Automobile Mechanic**
Diesel Mechanic**
Electrician**
Farm Equipment Mechanic**
Millwright**
Truckdriver*
Asbestos or Insulating Worker**
Carpenter**
Bricklayer**
Cement Mason and Terrazzo Worker**
Construction Laborer or Hod Carrier
Floor Covering Installer**
Lather**
Painter or Paperhanger**
Plasterer**
Plumber or Pipefitter**
Waiter or Waitress
Watch Repairman**
Factory Assembler
Automobile Painter**
Gasoline Service Station Attendant
Fireman
Welder**
Mail Carrier
Postal Clerk
Hotel Bellman
Railroad Worker

* Specialized training and/or a license is needed.
** Apprenticeship training may be required. (Part or all may be obtained at a vocational-technical school.)

Jobs for Which Junior College, Technical School, or Other Specialized Training is Usually Required

Forestry Aid
Dental Hygienist
Medical X-Ray Technician
Registered Professional Nurse
Actor or Actress
Dancer
Musician
Commercial Artist
Interior Designer or Decorator
Draftsman
Engineering Technician
Surveyor
Television and Radio Service Technician

Jobs for Which a College Education is Usually Required

Accountant
Advertising Worker
Public Relations Worker
Clergyman
Forester
Range Manager
Counselor
Engineer
Dentist
Dietitian
Optometrist
Pharmacist
Physical Therapist
Physician
Sanitarian
Veterinarian
Mathematician
Biological Scientist
Geologist
Astronomer
Chemist
Physicist
Anthropologist
Economist
Geographer
Historian
Sociologist
Teacher
Newspaper Reporter
Writer
Architect
Home Economist
Lawyer
Librarian
Psychologist
Social Worker
Purchasing Agent
F.B.I. Special Agent
Bank Officer

High School Students Receiving Instruction in How to Cut a Rafter. (Courtesy Milt Lawrence, Jackson, Mississippi.)

2. *What is the sequence of education?*

Sequence is the order in which education is obtained. Lower levels of education must be completed before higher levels are attempted. Basic skills and knowledge must be learned before specialized training can be undertaken.

② Education in the United States has a rather definite sequence. **In the sequence, elementary school comes first, then the middle school or junior high, and then high school.** Considerable time is spent in basic education at all levels. Basic education includes reading, mathematics, and the like.

In high school, students may have the choice of enrolling in certain vocational classes. These classes are designed specifically to aid a young person in entering the world of work. Examples of vocational classes in high school are accounting, agribusiness, sales and marketing, automobile mechanics, and home economics.

Some high schools have vocational departments. Others have area vocational schools in cooperation with nearby high schools. Area vocational schools may be located at a high school or several miles away. Transportation is provided for students when the vocational schools are not located at the high school they attend. Students enrolled in these schools spend two to three hours each day learning a specific area or trade. The remainder of the day they are in high school taking basic classes, such as those in communications or history. A vocational certificate may be given students who complete vocational courses. Many times students are able to take vocational courses in high school and still meet the requirements for entering a college.

Upon graduation from high school a student may enter a junior college, senior college, or vocational school. Some choose not to further their formal education at this time and enter the world of work. Frequently, adults enroll in night classes to further their education.

Junior colleges are also known as community colleges. Most junior colleges offer the same first two years of study as is normally found in senior colleges. Many students go to a junior college for one or two years (usually two) and then transfer to a senior college. In addition to regular college classes, junior colleges also have two-year training programs that lead into the world of work. These programs are usually in the vocational and technical department. There are also some junior colleges which offer only vocational and technical courses. These are known as post secondary vocational and technical schools, or technical institutes. Courses taken in a post secondary vocational school usually are not accepted toward graduation by senior colleges. A special certificate is awarded to students who successfully complete a post secondary vocational or technical course.

Senior colleges are of two kinds: colleges and universities. Universities are usually larger and have more areas of study than colleges. Also, universities usually have programs leading to advanced degrees.

Several kinds of degrees are available. Each has its own requirements. The amount of time required to obtain the degrees and the order in which they are obtained are shown below:

High School	Diploma or General Educational Development Test (GED)
Junior College (Community College)	↓ Associate of Arts Degree (Normally requires two years to complete)
Senior College or University	↓ Bachelor's Degree (Normally requires four years to complete)
	↓ Master's Degree (Normally requires one to two years to complete)
	↓ Doctor's Degree (Normally requires three to four years to complete)

3. *Where can education and training be obtained?*

③ **A number of vocational schools, junior colleges, colleges, and universities are found in Mississippi and nearby states.** Most students prefer to stay in Mississippi. Students who go to other states are required to pay additional fees. These are known as out-of-state or nonresident fees. Likewise, students who come from other states to Mississippi are required to pay out-of-state fees.

Education and training which lead to a wide variety of jobs is available in Mississippi. However, the training for certain highly specialized jobs in which few people are employed may not be available.

In addition to the public, tax-supported schools, a number of private vocational schools and colleges exist. Private vocational schools and colleges depend almost entirely upon tuition for their support. This means that the cost of attending a private institution is usually higher than the public ones. Also, some private schools lack the necessary equipment and facilities to provide up-to-date instruction. It must be noted, however, that some private colleges and vocational schools do an excellent job of preparing a person to enter the world of work.

The locations of the secondary vocational schools, junior colleges, colleges, and universities in Mississippi are shown on the next pages.

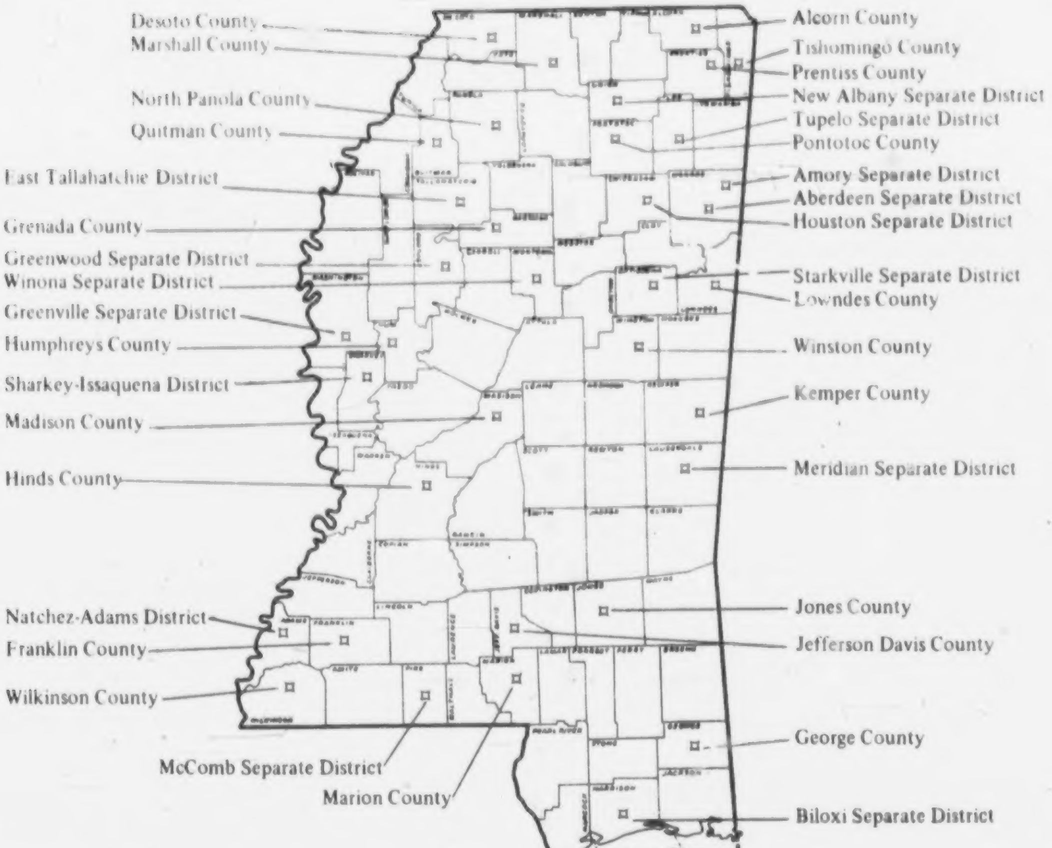
4. What is the procedure for applying for admission to a college or vocational school?

The procedure for gaining admission to a college or vocational school varies from one school to another. However, some similarity exists. In general, the following procedure can be followed:

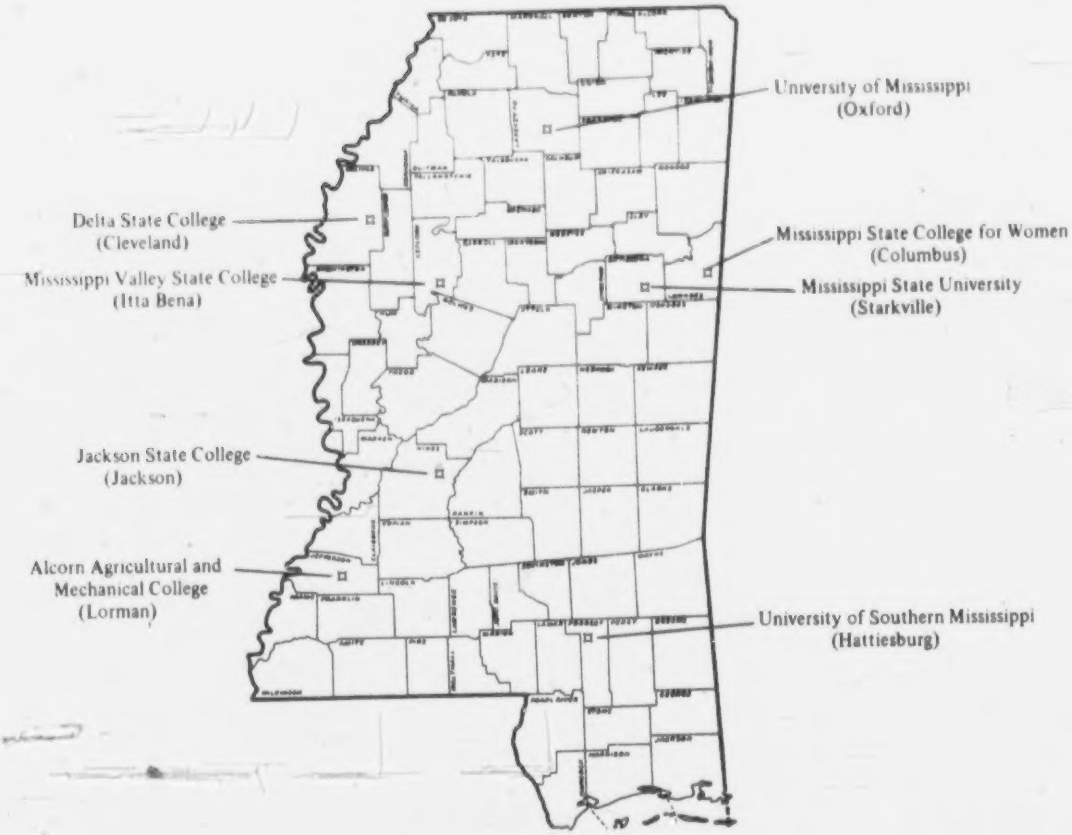
④ 1. **Write to the college or school and request an application blank and catalog.**
   a. In the case of a college, the letter should be addressed to the registrar. The registrar of a college is the person in charge of keeping records. Sometimes the enrollment of new students may be supervised by a director of admissions, but if so, the registrar will forward your letter.
   b. Letters to a vocational school should be sent to the director of the school. Students desiring admission to the vocational department in a junior college that has both vocational and academic programs should write to the vocational department at the junior college.
2. **Complete the appropriate application blank and return it to the proper address.** The address is indicated on the application blank. Sample application blanks are located in the Appendix of this book.
3. **Arrange to have a transcript of high school credits mailed to the college.** The principal or counselor in your high school can assist with this.
4. **Take the pre-admission tests which are required by the college.** The catalog will provide information about the required tests. Most colleges require students to take the American College Test (ACT). Some colleges have cut-off scores. Students who make below the cut-off score are not admitted or may be admitted on probation. Have your test scores mailed to the college. Vocational schools usually do not require students to take the ACT.
5. **Have a medical examination.** (A sample medical examination record is located in Appendix C.)
6. **Send the necessary deposit of fees (if required) to the proper office at the college.** This deposit insures that space in the college will be available for you at the time of registration.

Principals, counselors, and teachers can assist students in making applications for admission to colleges and vocational schools. Several sources of assistance are also available on college campuses to help students complete application blanks. The division of student affairs can provide assistance with many kinds of problems, including financial aid.

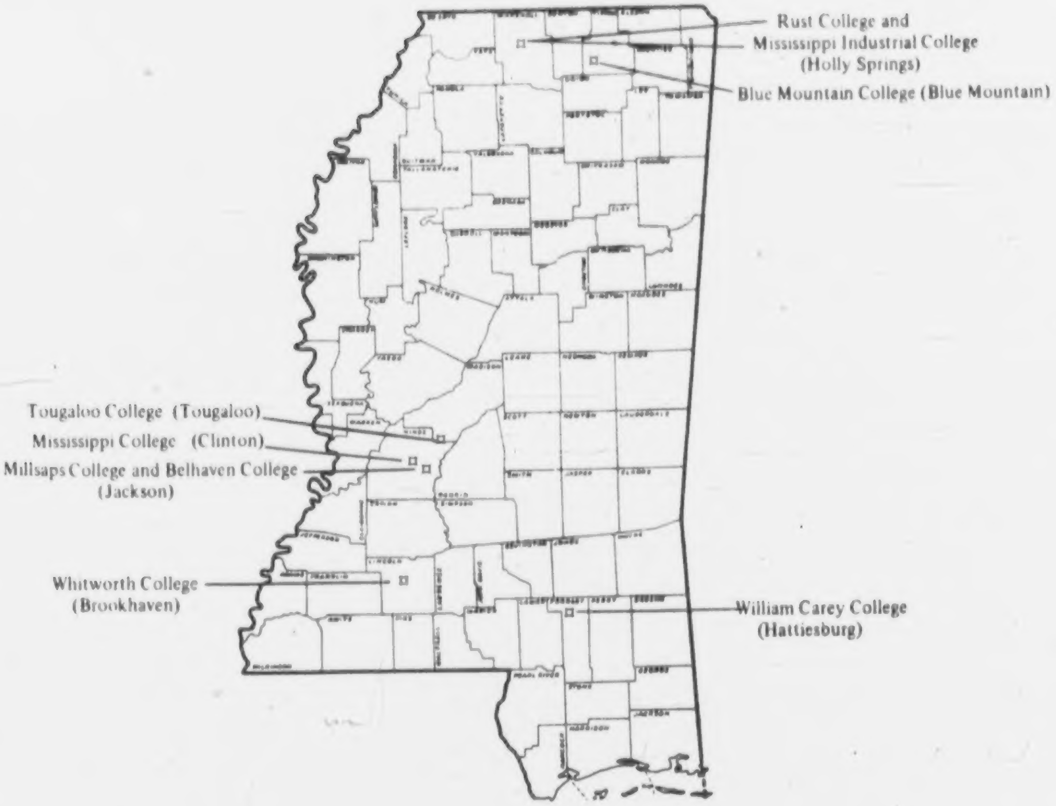
SECONDARY VOCATIONAL SCHOOLS IN MISSISSIPPI


Desoto County
Marshall County
North Panola County
Quitman County
East Tallahatchie District
Grenada County
Greenwood Separate District
Winona Separate District
Greenville Separate District
Humphreys County
Sharkey-Issaquena District
Madison County
Hinds County
Natchez-Adams District
Franklin County
Wilkinson County
McComb Separate District
Marion County
Alcorn County
Tishomingo County
Prentiss County
New Albany Separate District
Tupelo Separate District
Pontotoc County
Amory Separate District
Aberdeen Separate District
Houston Separate District
Starkville Separate District
Lowndes County
Winston County
Kemper County
Meridian Separate District
Jones County
Jefferson Davis County
George County
Biloxi Separate District

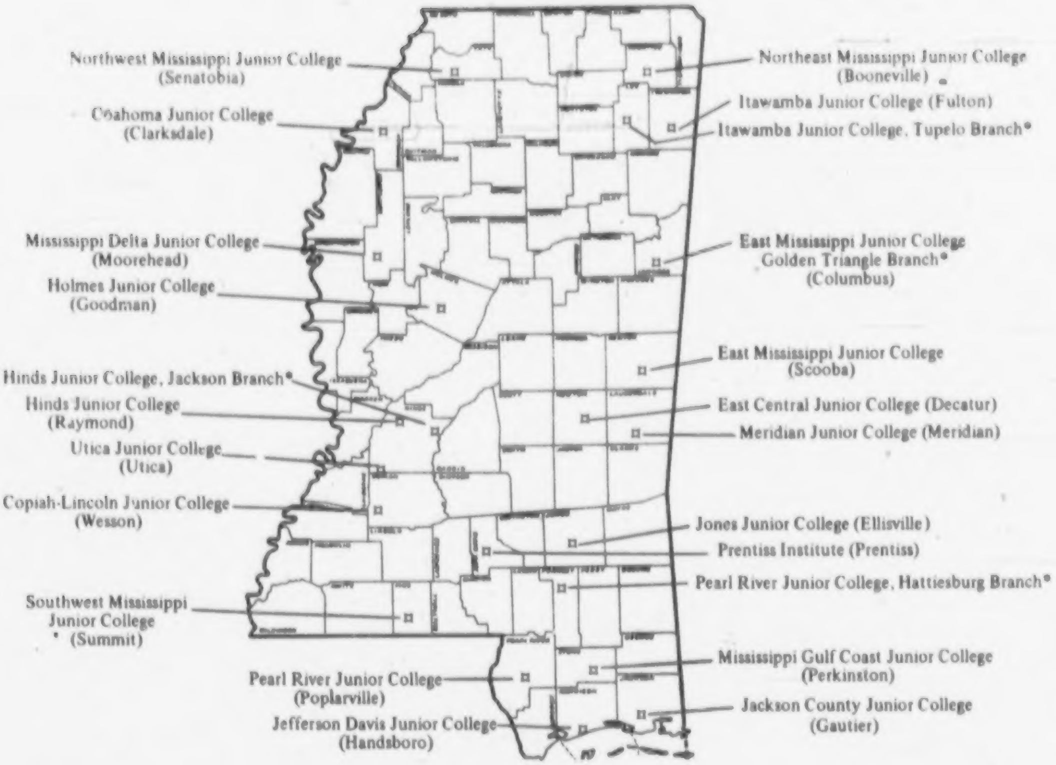
PUBLIC COLLEGES AND UNIVERSITIES IN MISSISSIPPI


University of Mississippi
(Oxford)
Delta State College
(Cleveland)
Mississippi State College for Women
(Columbus)
Mississippi Valley State College
(Itta Bena)
Mississippi State University
(Starkville)
Jackson State College
(Jackson)
Alcorn Agricultural and
Mechanical College
(Lorman)
University of Southern Mississippi
(Hattiesburg)

PRIVATE COLLEGES IN MISSISSIPPI

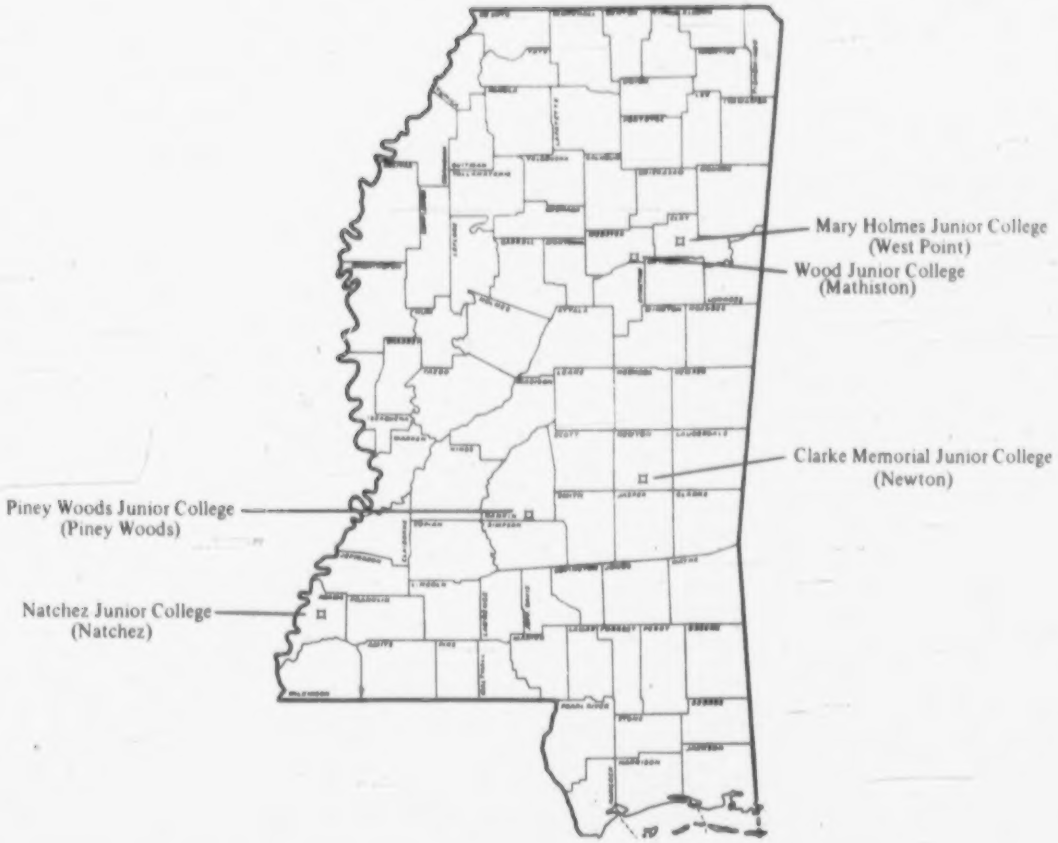

Rust College and
Mississippi Industrial College
(Holly Springs)
Blue Mountain College (Blue Mountain)
Tougaloo College (Tougaloo)
Mississippi College (Clinton)
Millsaps College and Belhaven College
(Jackson)
Whitworth College
(Brookhaven)
William Carey College
(Hattiesburg)

PUBLIC JUNIOR COLLEGES IN MISSISSIPPI


Northwest Mississippi Junior College (Senatobia)
Coahoma Junior College (Clarksdale)
Mississippi Delta Junior College (Moorehead)
Holmes Junior College (Goodman)
Hinds Junior College, Jackson Branch*
Hinds Junior College (Raymond)
Utica Junior College (Utica)
Copiah-Lincoln Junior College (Wesson)
Southwest Mississippi Junior College * (Summit)
Pearl River Junior College (Poplarville)
Jefferson Davis Junior College (Handsboro)
Northeast Mississippi Junior College (Booneville)
Itawamba Junior College (Fulton)
Itawamba Junior College, Tupelo Branch*
East Mississippi Junior College Golden Triangle Branch* (Columbus)
East Mississippi Junior College (Scooba)
East Central Junior College (Decatur)
Meridian Junior College (Meridian)
Jones Junior College (Ellisville)
Prentiss Institute (Prentiss)
Pearl River Junior College, Hattiesburg Branch*
Mississippi Gulf Coast Junior College (Perkinston)
Jackson County Junior College (Gautier)

*Offers primarily vocational and technical courses.

PRIVATE JUNIOR COLLEGES IN MISSISSIPPI


Mary Holmes Junior College
(West Point)
Wood Junior College
(Mathiston)
Clarke Memorial Junior College
(Newton)
Piney Woods Junior College
(Piney Woods)
Natchez Junior College
(Natchez)

5. How much will the education or training cost?

The cost of education depends upon several factors. ⑤ **Perhaps the most important factor is the area to be studied. Certain areas of study require considerable time for completion.** An example is medicine which requires years of study. Other areas may require only a few weeks or months of training. An example is cosmetology which requires several months.

The cost of education will vary with the school or college chosen. It is usually more economical to attend a public junior college. This is true for students studying in either vocational subjects or courses in academic areas which can be transferred to a senior college if desired. Private vocational schools usually charge more for the same training than public vocational schools. In turn, private junior colleges and senior colleges usually have higher fees than public colleges.

Some examples of the cost of various educational programs are shown below. These costs are for students who are going to school full time.

Colleges and Schools in Mississippi	Approximate Cost for 9 months*
Public college	
Day student**	$ 450.00
Dormitory student***	1,000.00
Public university	
Day student	$ 500.00
Dormitory student	1,400.00
Public junior college	
Day student	$ 200.00
Dormitory student	600.00
Public junior college (Vocational Course)	
Day student	$ 200.00
Dormitory student	600.00
Private college	
Day student	$1,200.00
Dormitory student	2,000.00

* Does not include books, supplies, clothing, or other personal items.

** Day student is defined as a student who rooms off-campus. The cost for a day student does not include room or meals.

*** Dormitory student is defined as one who lives on campus. The costs for a dormitory student include room and meals.

6. What sources of assistance are available for financing education and training?

Securing the money required to pay for education and training is a problem for many students. Fortunately, this is a problem that can usually be overcome. Students must be willing to explore all possible sources of financial aid. Usually, a student who gives up easily will not secure the aid that he needs.

⑥ **Education may be financed in several ways. The most common ways are gifts, scholarships, loans, and work.**

Gifts. Parents or other persons may supply part or all of the money that is required. Students often feel that they should provide at least a part of the money themselves and not depend completely on their parents for support.

Scholarships. A scholarship is a grant or gift, usually given through a college, to help finance a student's education. Various donors furnish the money. Scholarships usually supply only a portion of the money required. The bases for awarding scholarships vary. Some are given for high school academic achievement (grades) and high test scores. Others are awarded on the basis of need. Information about scholarships at a college can be obtained from its director of financial aid.

Loans. Loans to finance education are available from a number of sources. Those obtained through colleges usually have lower interest rates. In some cases it may be necessary to repay only part of a loan. The director of financial aid at a college can furnish details about the availability of these loans.

Work. Students may finance part or all of their education by working. Colleges often have part-time jobs available. Many students work full-time in the summer. Some colleges have cooperative programs which allow students to work and go to school alternate semesters. Additional information about work at a college can be obtained from its director of financial aid.

Goal:

Students should realize the importance of obtaining adequate preparation to qualify for various jobs and learn where and how to obtain training.

After the students have read Chapter V, have them discuss the following questions:

Review Questions:

1. How does the amount of education required for different jobs vary? p. 32
2. What is the sequence of education in the United States? pp. 34-35
3. What kinds of schools and colleges are found in Mississippi? p. 35
4. List the steps in being admitted to a college or vocational school. p. 36
5. What determines the cost of education? p. 42
6. How may students finance education? p. 42

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Obtain catalogs and brochures from several nearby colleges and vocational schools. Review the materials. Note the areas of study offered and the requirements in the various areas.
    a. As a class project, students may write the admissions offices of the colleges and universities listed on pages 38, 39, 40 and 41, requesting catalogs and any other information concerning career training. Such information will help students become aware of the wide range of jobs available and the training necessary to secure these jobs.

    b. Have students locate from the listing on page 37 the nearest secondary vocational school. Students may then write or, if the school is close by, visit the school and obtain printed materials relating to course offerings.

2. Contact representatives of nearby colleges and vocational schools. Invite them to visit the class and discuss the educational requirements in various fields. Also, have them explain how to be admitted, how much it costs for various areas of study, and how to obtain financial aid.

   Refer to Appendix D.

3. Obtain an application blank for admission to a college or vocational school. Study it to determine the kinds of information needed. (Seniors may wish to complete the blank and send it to the school they are interested in attending.)

   Application blanks may be requested when writing admissions offices for catalogs and brochures.

4. Invite a former student of your school who is now enrolled in a college or vocational school to visit the class. Have this person discuss his experiences at the school.

   Students should be prepared to ask relevant questions such as:

   a. Which high school courses provided the best preparation for advanced training?

   b. Why was the institution chosen?

   c. Was financial aid or a part time job available?

   d. Are the courses as difficult as anticipated?

   e. How much time is spent on studying?

   f. What type of job is expected upon completion of training?

   g. What type of jobs could be found without training?

5. Invite the counselor in your school to visit class. Have him explain how former students have financed their education in college or vocational school.

6. Invite a counselor or teacher to visit class. Have him explain the following terms: units, semester hours, quarter hours, and 1080 hours.

   a. Units:
   Most high schools require that a student complete sixteen units or courses in order to graduate.

   b. Semester hours:
   Semester hours are college credits granted for courses completed. Ordinarily three semester hours are granted to students attending a class three times a week for eighteen weeks. A total of approximately 120 semester hours is required for graduation from a four-year college.

c. Quarter hours

Quarter hours are college credits granted for courses completed. Ordinarily, four quarter hours are granted to students attending a class four times a week for twelve weeks. A total of approximately 192 hours is required for graduation from a four-year college.

d. 1080 hours.

A total of 1080 hours of training over a two-year period is required to complete a high school or junior college program for some trade and industrial areas.

Additional Activities:

1. Have students discuss the following situation:

WHAT WOULD YOU DO?

John has recently graduated from high school. He is interested in sales and management type of work and has been applying for management training programs with various retail stores.

This week, he has a big decision to make. A local department store has offered John a job as department manager with good starting pay. However, the personnel manager has made it clear that chances for advancement will be slow or nonexistent. John has also been accepted to the management training program of a national chain. This job would pay $30.00 per week less than the local store. However, during a five-year training program, John would have an opportunity to advance through the ranks until he completes the program and becomes a store manager. His salary would increase gradually and as a store manager, he would have an opportunity to make an extremely good salary.

John feels that he would like either job. However, if he takes the job with the lower salary, he will not be able to afford a new car. What would you do?

2. Have students discuss the following situation:

WHAT WOULD YOU DO?

Bob wants to go to college when he finishes high school. Each summer he has found a job and saved most of his earnings to use on college expenses. Since Bob is from a very large family, he knows that he must supply his own money if he wants to attend college.

This summer, Bob has not been able to find a job. He has applied at many businesses and has had no luck. Three weeks of vacation have already passed, and he is beginning to feel desperate.

Yesterday, Bob was talking with his friend, John. John mentioned that he has heard that a job is open at the local building supply company, and he intends to apply.

Bob couldn't sleep last night. He wants to apply for the job that John mentioned. Bob knows the manager, and he feels sure that he can get the job. His friend, John, is from a high income family. He really doesn't need the job.

Bob doesn't know what to do.

Students may develop job skills in Mississippi Junior Colleges.

3. Ask students to volunteer to play the parts of persons in the skit. After completing the skit, have students give their reactions.

SKIT*

Situation: The students are discussing what they hope to do when they finish high school.

Cast: Barbara, Harry, Joe, Jeanette: four students in the ninth grade.

BARBARA: I was speaking to Mr. Lewis, our guidance counselor, about my high school program.

HARRY: Why so early? I'm going to worry about that when the time comes.

JOE: What did you do before you spoke with him? I mean, did you prepare for your talk?

BARBARA: Well, first I reviewed my school marks for the past three years. Then I made a list of all the things I ever wanted to be.

JEANETTE: Isn't that a lot of trouble? After all, I want to be a nurse, and that's the only thing that is important.

JOE: I don't know about that, Jeanette; after all, you must consider the subjects that the high school is offering before you decide on your program.

HARRY: That's what I mean. Look over the program — decide what you want to take — and take it.

BARBARA: But how do you know you can do the work if you ignore what you have been able to do in the past few years? And, besides, the subjects you plan to take must be chosen with a purpose in mind. They should prepare you for something.

JEANETTE: I agree with that last statement. I want to be a nurse. I'm going to study the subjects that are required by nursing schools.

HARRY: I'm going to take a general course and let the future take care of itself.

JOE: I want to find out all about the teachers before I decide.

***Arkansas Guide for Vocational Orientation.** (Arkansas State Department of Education), pp. 232-233. Printed with permission.

SKIT continued:

JEANETTE: I know I'll need algebra and chemistry to become a nurse, so I'm planning on a college preparatory course.

BARBARA: That's all well and good, Jeanette. But shouldn't you consider your grades to help determine whether or not you can expect to pass a college preparatory course?

HARRY: What's the difference? If a college preparatory program sounds good to her, she should take it.

JOE: Yes, especially since it fits into her plans to be a nurse.

BARBARA: Well, before I decide, I intend to review my marks and special test results and talk over my plans with Mr. Lewis and my parents.

JOE: But the important thing is what subjects are available — and what you want to become.

HARRY: The shop teacher is a pretty good fellow, so I'm going to take shop. The math teacher is tough, so I'm going to keep away from math.

JEANETTE: But Harry, you should consider what you are going to do in the future.

HARRY: What's the difference?

BARBARA: Well, for one thing, when you become a senior you may find that your program was one which has prepared you for nothing in particular.

JOE: Well, there's the bell. Let's go to class.

4. A student's study habits may often give an indication of the type of work habits which he will develop when he secures his first job. Students who analyze and improve their study habits may develop better work habits. The following form may help students to analyze their study habits.

ANALYZING MY STUDY HABITS*

STUDY HABITS	YES	SOME-TIMES	NO
1. Do I know the assignment exactly?			
2. Do I keep an assignment notebook?			
3. Do I have definite hours set aside for study?			
4. Do I have a definite place at home set aside for study?			
5. Do I have trouble getting started?			
6. Do I make notes of the important points in the assigned material as I study?			
7. Do I review my lessons briefly before going to class?			
8. Do I complete assignments on time?			
9. Do I collect the necessary materials before I begin to study?			
10. Do I waste time?			
11. Do I find myself daydreaming while I study?			
12. Do I check over major topical headings before reading the material that follows?			
13. Do I recall main points as I study?			
14. Do I have confidence in my ability to master the subject matter?			

How may I improve my study habits? ______________________________

____

____

____

*__Career Exploration, A Guide for Teachers__. (Oklahoma State Department of Vocational and Technical Education), p. 37a. Printed with permission.

Suggested Review Survey:

Match the answers on the right (letters) with the corresponding items (numbers) on the left. Some of the answers may be used more than once.

______ 1. Mississippi State
______ 2. Pharmacist
______ 3. Chemist
______ 4. GED
______ 5. Salesman
______ 6. Surveyor
______ 7. Tougaloo
______ 8. Fireman
______ 9. Jackson State
______10. Counselor

A. High School Education preferred
B. Junior College or Technical School usually required
C. College Education usually required
D. Public University
E. Public College
F. Private College
G. Secondary Vocational School
H. High School Equivalency

Answers to suggested review survey: 1, D; 2, C; 3, C; 4, H; 5, A; 6, B; 7, F; 8, A; 9, E; 10, C.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Free Printed Materials:

BIOLOGY AND YOUR CAREER 167 k

DON'T OVERLOOK THE BUSINESS COLLEGE 159 b

ENGLISH AND YOUR CAREER 167 l

FACING FACTS ABOUT YOUR COLLEGE CAREER 143 c

FACING FACTS ABOUT THE TWO-YEAR COLLEGE 143 b

FOREIGN LANGUAGES AND YOUR CAREER 167 m

JOBS FOR WHICH A COLLEGE EDUCATION IS USUALLY REQUIRED 167 b

JOBS FOR WHICH A HIGH SCHOOL EDUCATION IS GENERALLY REQUIRED 167 c

JOBS FOR WHICH JUNIOR COLLEGE, TECHNICAL INSTITUTE, OR OTHER SPECIALIZED TRAINING IS USUALLY REQUIRED 167 d

JOB TRAINING SUGGESTIONS FOR WOMEN AND GIRLS 169 a

MATHEMATICS AND YOUR CAREER 167 n

SCIENCE AND YOUR CAREER 167 o

SOCIAL SCIENCE AND YOUR CAREER 167 p

Supplementary Books and Pamphlets:

DISCOVERING YOURSELF 237 a

LOVEJOY'S CAREER AND VOCATIONAL SCHOOL GUIDE 238 a

LOVEJOY'S COLLEGE GUIDE 238 b

LOVEJOY'S SCHOLARSHIP GUIDE 238 c

MY EDUCATIONAL PLANS 237 c

GUIDE TO COLLEGE MAJORS 218 c

MAJOR FIELDS OF STUDY 218 d

STUDENT AID ANNUAL 218 e

WHAT TO DO AFTER HIGH SCHOOL 237 e

Filmstrips:

HIGH SCHOOL COURSE SELECTION AND YOUR CAREER 241 e
JOBS FOR HIGH SCHOOL STUDENTS 241 j
ON THE JOB: FOUR TRAINEES 241 l
SHOULD YOU GO TO COLLEGE? 241 p

VI. Selecting A Career

Every young person hopes to enter the right career. You most likely also have the same wish. You probably have questions about how to select a career. You may be wondering about where to find reliable assistance, how attending school is related to career planning, or how occupations may be studied. This unit is designed to provide assistance with some of these problems.

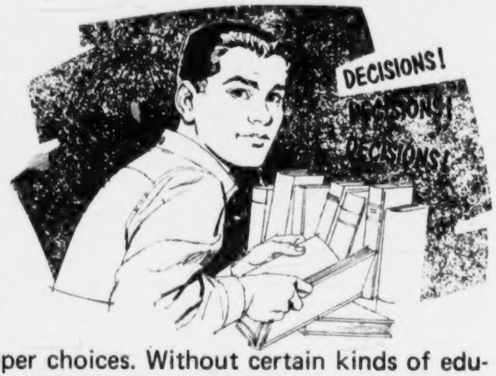
The following questions will be answered in this unit:

1. **How do people enter careers?**
2. **What factors should be considered in selecting a career?**
3. **What sources of assistance are available to help in selecting a career?**
4. **How may the reliability of occupational information be determined?**
5. **What tests may be used? How may the results be used in selecting a career?**
6. **How is the world of work studied?**
7. **How are occupations clustered in this publication?**

1. How do people enter careers?

People enter careers in different ways. It is not likely that any two people would enter a career in exactly the same way. Two main factors are important in career determination: choice and chance.

Choice. Choice involves planning. It involves selecting to do those things which place one at an advantage in the world of work. Through choice, individuals select the courses to take in high school and the trade or area to follow afterward. By selecting certain educational or training programs, an individual is preparing himself to make certain choices about work. Likewise, when he chooses an area of study, his alternatives in the world of work are limited. For example, if one chooses to learn carpentry he may enter work as a carpenter, apprentice carpenter, or carpenter's helper. He cannot, however, enter as an automobile mechanic. The same holds true for those who attend a four-year college. If one majors in physics he will not be a medical doctor upon graduation.


DECISIONS!
DECISIONS!
DECISIONS!

Choices need to be intelligently made. The facts must be clearly understood before choosing. Without accurate facts persons may make improper choices. Without certain kinds of education or training one may never have the opportunity of making a choice. If a job is open but one does not have the qualities required to fill that job, then a person has no choice. He must look for some other job for which he has the required education or experience.

Many factors influence the choices a person makes. The choice of a career is related to the career choices of his parents and friends. The choice is limited by where the student wants to live, by education, and by experience.

Chance. No planning is involved with chance. It is often by chance that a job becomes available. If, through choice, one has acquired necessary skills, then he may possibly be hired. If one does not have the required skills it does little good to apply.

It is important that a person be prepared when, by chance, a job becomes available. Chance is important. But, if through choice one has prepared himself, he will be able to take advantage of opportunities when they become available.

2. What factors should be considered in selecting a career?

The selection of a career is a personal decision which each person must make for himself. Consideration should be given to a number of factors. Some of these are listed and discussed below.

① *Interests.* The kinds of activities, or nature of the work, in a career should be examined to determine if they are similar to one's interests. If one is interested in mechanics, it seems that the career selected would in some way involve mechanics. If one prefers to be outside, an office job might not be desirable. Each person should attempt to answer for himself the question: "What are my interests?" Once a person is aware of his interests he should consider them in selecting a career.

Abilities. A worker needs to have the skill, talent, knowledge, or power to do a job. Persons who have artistic abilities would do well to consider careers in art. Persons who do not have these qualities would probably be more successful in other careers. Many abilities can be developed. The purpose of education and training is to develop one's abilities which are required for work.

Education and Training Required. When trying to decide on a career, one should consider education and training. Some careers require considerable formal education and training; others require very little. Frequently, the necessary training may be given on-the-job.

This Photograph Shows a New Worker Receiving On-the-Job Instruction. (Courtesy Milt Lawrence, Jackson, Mississippi.)

The following questions regarding education should be answered: Where can it be obtained? How much is required? Will sufficient money be available? Am I willing to stay in school long enough?

Earnings. A career should provide adequate income to obtain the desired level of living. Persons usually begin careers in low-paying occupations and advance to those which pay more. The advancements also bring additional responsibility. One must also recognize that he may not advance as rapidly as planned.

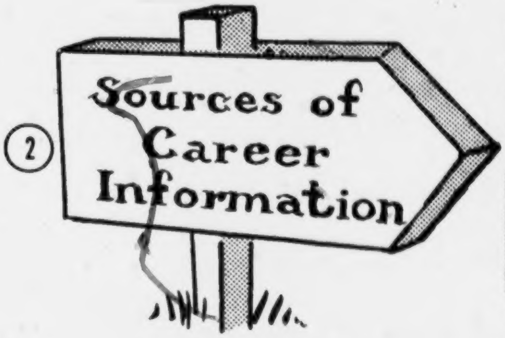
Location of the Work. Certain occupations may not be available in one's home town. In fact, opportunity in the world of work frequently demands that one leave his home town. One may have to move to a larger city or to another state. Some people do not mind moving. Others prefer to remain near their home towns. Each person must make his own decision with regard to family ties.

Methods of Entry. Different occupations are entered in different ways. Some require extensive education and training. Others require a period of apprenticeship. It is almost impossible to enter some occupations unless a parent or close relative has been in the occupations. Examples include certain skilled occupations around the larger cities and farming. Farming requires a large investment in land and equipment. It is almost impossible for a young person to acquire these unless they are inherited. Of course, one can begin as a worker on another farm and gradually obtain his own farm over the years. It may be necessary to take an examination or obtain a license to qualify for entry into some occupations. Union membership may affect the speed of finding employment or advancing in a job.

Future. Some occupational areas are rapidly expanding. Others are remaining relatively stable or declining. Advancement will usually come about faster in an occupational area that is experiencing rapid expansion.

Spouse and Family Ties. Careers may be somewhat limited by those of which the family or spouse will approve. Usually, women who are married temporarily give up a career outside the home when their children are young.

3. *What sources of assistance are available to help in selecting a career?*



Many sources of information are available to aid in selecting a career. These sources should be used as often as necessary. They are usually readily available to everyone, especially students. Some of the more common sources of assistance are listed below.

Counselors. Most schools have counselors. These persons usually have a library of information pertaining to careers. Counselors frequently administer tests to aid in determining aptitudes and interests for particular careers. Counselors frequently administer tests to aid in determining aptitudes and interests for particular careers.

Teachers. Teachers, especially vocational teachers, often have career information. They can use their varied experiences and backgrounds to furnish accurate and realistic information. If teachers do not have the information needed, they usually know how and where to obtain it.

Business and Professional Workers. Local businessmen can furnish first-hand information concerning their respective careers. They are usually glad to meet with groups or individuals to discuss their careers and the opportunities available. A worker in any job can usually provide some insight into the nature of the work he is doing.

Employment Services. Employment services have information concerning the kinds of jobs available, number of people employed, expected change in number of jobs, and related details. They usually have a counselor available to explain the various aspects of the services provided. These services are provided to individuals free of charge, except for private employment agencies.

News Media. The various news media play important roles in providing career information. This information is normally reliable, but should be carefully evaluated for accuracy. The news media include newspapers, magazines, radio, and television. They are an up-to-date source of information concerning employment trends in a local area.

Parents. Youth are probably more familiar with the occupations of their parents than of any other occupation. Some parents want their children to follow them in the same or similar careers. Other parents encourage their children to seek different careers. The influence of parents is very strong on the career plans of children.

Specialized Occupational Materials. A wide assortment of up-to-date, career-information materials is available. These materials include pamphlets, kits, films, tape recordings, and similar materials. Libraries and counselors usually have some of these available.

4. *How may the reliability of occupational information be determined?*

When studying information about careers one wants to be sure that the information is reliable. When unreliable information is used, one may select a career on the basis of incomplete or inaccurate information. If this is done, one may be disappointed in his career after a decision has been made.

Some things to look for in determining the reliability of career information are:

③ **Date**—Certain material that was published more than three years ago may be inaccurate. Changes occur very fast in the world of work. The most recent information about occupations should always be used.

Purpose of the material—Career information materials are available from many different sources. Some of these materials are completely accurate. Other materials may be designed to recruit persons into a particular occupation. The facts are presented so as to paint a bright future in that particular occupation. These are biased materials and should be carefully evaluated.

Accuracy—Sometimes materials are inaccurate. This may be accidental or simply the result of whoever prepared the material having erroneous information. Occupational materials are always prepared in terms of how the author views them.

Glamorization—Occupational information materials may tend to present only the advantages of an occupation. All occupations have good features and bad features. Information about occupations should present both sides of the story.

5. *What tests may be used? How may the results be used in selecting a career?*

Several different tests may be used to help a person select a career. Most all schools have a testing program which includes such tests. The scores obtained from tests provide information to counselors and also assist persons in understanding themselves.

Tests are usually designed for specific purposes. Different tests will attempt to determine various traits of people. Schools often give interest, aptitude, and achievement tests. ④ **Interest tests are designed to aid students in understanding their interests. Aptitude tests are to assist in determining the potential or ability of a person in certain areas. Achievement tests attempt to determine how much a student has learned in relation to other students.**

Many of the tests that schools give are not really "tests." They are "rating scales" or "inventories." There are no right or wrong answers on rating scales. They are designed to determine a person's opinion about certain things. In taking such tests, students should be honest and indicate how they truly feel.

Several different interest tests are available. All of these attempt to indicate the interests of people in certain areas. The areas commonly included relate to mechanical, outdoor, academic, business, and artistic interests.

Aptitude tests have areas similar to interest tests. They attempt to determine a person's potential for something rather than just his interest in it. For example, an aptitude test may be designed to determine a person's aptitude for doing routine activities or for doing mechanical activities.

Test results may be helpful to students in selecting careers. It should be remembered that tests do not reveal everything. The scores that students make are indications of interests, aptitudes, and the like. They do not tell the complete story.

The helpfulness of tests is determined by the kind of test used and whether or not it is administered, scored, and interpreted properly. Students should secure the assistance of counselors in interpreting test results. Actually, the counselors in most schools have the test results on file in their offices. In this case, students see their scores only in the presence of a counselor.

Results of tests usually show a person's suitability for a broad career field and not for a particular occupation. Tests may indicate that a person is better suited for a certain cluster or group of careers. The person will then be able to narrow his choices.

6. *How is the world of work studied?*

A number of different ways may be used to learn about work. Some people prefer to use just one of the ways; others prefer a combination. It is probably more meaningful to use a combination.

A person who is beginning a study of occupations should study them in groups or clusters. The many thousands of occupations in the world of work make it impossible to study each individually. By studying groups of similar occupations, one can select the specific occupations out of each group that he likes best and explore each in detail.

Studying occupations could involve just reading pamphlets or books. This is good, but more is needed. Various ways of making one's study realistic should be used. Films, tape recordings, and resource persons are meaningful and provide assistance in understanding the nature of an occupation. A variety of laboratory activities can be valuable in answering the question, "What is an occupation really like?" Part-time work in the summer or after school is excellent. Making field trips to businesses and industries is also helpful. No doubt a combination of ways of studying occupations is used in occupational orientation classes.

7. How are occupations clustered in this publication?

⑤ **All occupations are placed in eight major groups in this publication. Each group, or category, is further divided into six levels. This method of classifying occupations was developed by Anne Roe of New York University. It is known as the "Roe Classification System."**

The eight major groups are known as "Interest Groups." Occupations are placed in the respective groups on the basis of the primary interest of persons engaged in these occupations. The eight groups are:

I. **Service**
Occupations in the Service Group are concerned with helping other people. Workers in Service occupations serve and attend to the personal tastes, needs, and welfare of other persons.

II. **Business Contact**
This interest Group includes those occupations in which face-to-face contact is made with other people. (Sales occupations in which selling is routine and no personal persuasion is involved are in the Organization Group.)

III. **Organization**
This group includes the managerial and white collar jobs found in business, industry, and government. Organization occupations are concerned with the efficient functioning of activities within these agencies.

IV. **Technology**
Occupations concerned with the production, maintenance, and transportation of commodities and utilities are included here. Many of the skilled trades and construction jobs are in the Technology Group.

V. **Outdoor**
As is indicated by the name, this Group is concerned with "outdoors" kinds of activities. Occupations in this Group deal with crop production, management of water resources (both marine and inland), mineral resources, forest production, natural resources, and animal husbandry.

VI. **Science**
Occupations in this Group are primarily concerned with scientific theory and its application. These occupations are distinguished from those in the Technology Group by the setting in which the work is performed.

VII. **General Cultural**
Occupations primarily concerned with the preservation and transmission of our general cultural heritage are in this Group. It includes occupations in education, journalism, law, and related areas.

VIII. Arts and Entertainment
These occupations include those which are primarily concerned with the use of special skills in the creative arts and in the field of entertainment. Creators and performers are included.

Examples of occupations in each category are shown in the chart below.

An Example of how Occupations are Grouped in the Roe Classification System*

	I Service	II Business Contact	III Organization	IV Technology	V Outdoor	VI Science	VII General Cultural	VIII Art And Entertainment
1	Counselor	Promoter	Industrial Tycoon Economist	Chief Engineer	Archaeologist Geologist	Research Scientist Medical Specialist	Supreme Court Justice College Professor	Artist Architect
2	Social Worker Probation Officer	Public Relations Specialist Manufacturer's Salesman	Certified Public Accountant Hotel Manager	Factory Manager Computer Programmer	Forester Surveyor	Nurse Veterinarian	Editor High School Teacher	Athlete Designer
3	Detective Welfare Worker	Automobile Salesman Insurance Salesman	Bank Teller Restaurant Manager	Pilot Radio Operator	Farm Owner Game Warden	X-Ray Technician Chiropractor	Radio Announcer Reporter	Ad Writer Interior Decorator
4	Barber Policeman	Auctioneer	Cashier Receptionist	Electrician Mechanic	Miner Oilwell Driller	Technical Assistant Practical Nurse	Law Clerk	Photographer Racing Car Driver
5	Taxi Driver Waiter	Peddler Routeman	Typist Mail Carrier	Bulldozer Operator Truck Driver	Farm Tenant Painter			Stage Hand
6	Elevator Operator Watchman		Messengerboy	Laborer Meter Reader	Farm Laborer			

*Anne Roe. The Psychology of Occupations, New York. John Wiley and Sons, Inc., 1956.

Each Group in the Roe system is divided into six levels. The levels are based on responsibility, capacity, and skill of the occupations. The major distinction between levels is found in the degree of responsibility for decisions. Persons in some occupations are required to make numerous decisions. Other occupations require considerable education and experience. A description of each level follows.

Level 1. Professional and Managerial: Independent Responsibility.
This level includes the innovators and creators, the top managerial and administrative people, and the professional persons who have independent responsibility in important respects. They are policy makers. If a high level of education is required it is at the doctoral level or equivalent. All level 1 occupations do not require a high level of education, however. Examples in this level not requiring high levels of education are high government officials and persons in the creative arts.

Level 2. Professional and Managerial.

The distinction between this level and level 1 is primarily one of degree. Occupations in this level are narrower or have less significant responsibilities than in level 1. These occupations involve policy interpretation, medium degree of responsibility, and education at or above the bachelor's degree level.

Level 3. Semi-Professional and Small Business.

These occupations have a low degree of responsibility for others and involve a technical-level education.

Level 4. Skilled.

This level and those following are common subdivisions of occupations. Skilled occupations require apprenticeship or other special training or experience.

Level 5. Semi-Skilled.

These occupations require some training and experience but markedly less than the occupations in the Skilled Level. In addition, there is much less independence and initiative permitted in these occupations.

Level 6. Unskilled.

These occupations require no special training or education and not much more ability than is needed to follow simple directions and to engage in simple activities. At this level, differentiation in the interest groups depends primarily upon the setting for the work.

Some occupations appear in more than one level. This is because the amount of education and/or experience acquired by those who are engaged in such occupations varies. Those at the higher level assume more responsibility and may be supervising or directing activities of others in the same occupation.

Goal:

Students should become familiar with the various factors which influence career choice and begin to understand how these factors will influence their own career choices. They should also learn to locate, use, and evaluate various types of occupational information and become especially familiar with Roe's classification system which will be used to cluster occupations in the next eight chapters.

After the students have read Chapter VI, have them discuss the following questions:

Review Questions:

1. List and discuss some factors to consider in selecting a career. pp. 45-46
2. What are some sources of information about work? pp. 46-47
3. What are some things to look for in determining the reliability of occupational information? p. 47
4. How are the results of tests used in selecting a career? p. 48
5. Who is Anne Roe? How did she group occupations? p. 49

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. **Informally interview several people. Ask them how they began their careers.**

   Students may consider interviewing persons who are readily available such as parents, friends, relatives, neighbors and school personnel.

2. **List the occupations of your parents and several other adults whom you know. Indicate how much education is required for each occupation. Use the education levels of high school, junior college, or college.**

   Have students classify these occupations according to the eight major interest groups and six skill levels in Roe's classification system. Have students compare the level of education or training of the people interviewed with the level listed in Roe's classification and discuss the differences, if any.

3. **Make a list of sources of career information in your school. Visit each source. Determine the kinds of materials that are available.**

   a. Refer to Appendix P.

   b. Arrangements may be made for students to visit the school library and counselor's office and become familiar with the various sources of occupational information. Contact the librarian and counselor so that they will be prepared to assist the students in finding information.

4. **Invite the counselor in your school to visit class and explain the testing program.**

   Refer to Appendix M.

5. **Visit with the counselor in your school. Determine the kinds of tests given, when they are given, and the purpose of each.**

   Refer to Appendix M.

6. **Obtain a copy of the scores that you made on an occupational interest test. Compare your scores with the areas of work in which you think you are interested.**

   If students have not already taken an interest inventory, the teacher might administer an interest inventory such as the Kuder. Listed below are steps which students may follow in working in this area.

   a. Distribute and have students complete the Kuder General Interest Survey.

   b. Have students rank in order of personal preference, the ten interest areas on the Kuder.

   c. Have students score their own tests during the next class period. The teacher should be available to help students who have difficulty.

d. Explain to students that a percentile rank tells a person how many people he scores higher than in a group of 100. For instance, a person with a percentile score of 75 would score higher than 75 of 100 persons in that particular interest area.

e. Have students graph the results of their answers on the profile sheet and record the percentile rank for each interest category.

f. Have students record their percentile scores ranging from 75 to 100. These scores should represent their highest interest areas. Have students record their percentile scores ranging from 0 to 25. These scores should represent their lowest interest areas. Those percentile scores ranging from 25 to 75 represent areas of average interest.

g. Have students compare their interest rankings on the Kuder with the interest rankings they assigned to themselves before taking the test.

h. Listed below are the comparisions of the interest areas on the Kuder with Roe's interest groups.

Roe's Interest Groups	Kuder Interest Survey
I. Service	Social Service and Scientific
II. Business	Persuasive
III. Organization	Clerical and Computational
IV. Technology	Scientific, Mechanical and Computational
V. Outdoor	Outdoor, Scientific, and Clerical
VI. Science	Scientific and Computational
VII. General Culture	Literary and Social Service
VIII. Arts and Entertainment	Artistic, Musical, and Literary

Have the students study the chart on page 50 carefully and discuss the relationship between the Kuder classification and Roe's classification. Students may list jobs included in their high interest areas in which they are expecially interested. Students should be encouraged to do further study and research in their high interest areas.

Additional Activities:

1. Have students discuss the following situation:

WHAT WOULD YOU DO?

Mark enjoys working on cars. During his high school years, he has spent many happy hours repairing old cars and selling these cars for a profit.

Mark makes average grades in his school work and could probably make higher grades if he were more interested. His parents have been "hasseling" him lately. They feel that he may not be able to enter a good university without high grades.

Mark really isn't interested in college. He would like to train to be a top-notch automobile mechanic by attending one of the schools operated by a leading car manufacturer.

Mark's father works in a bank. He insists that Mark will never "amount to anything" without a college education.

Soon, Mark will graduate from high school and he feels very confused. Mark respects his father's judgment. However, Mark doesn't feel that he wants to spend four years in college when he could be learning to be a mechanic. What would you do?

2. Select several pieces of occupational information and have students evaluate them by referring to the factors relating to reliability listed on page 47. The following questions may be used by students to evaluate materials.

   a. What is the copyright date of the publication? Is the date current enough for the material to be reliable?

   b. Why was the publication written? Did the publication seem to give a realistic picture of the occupation described?

   c. Do the materials in the publication seem to be accurate?

   d. Does the publication present both advantages and disadvantages of the occupation?

3. Students may better understand themselves by filling out this checklist.

SELF-PICTURE CHECKLIST*

Place an "X" in the column which best describes yourself.

	Always	Usually	Sometimes	Never
1. Honest				
2. Happy				
3. Friendly				
4. Sad				
5. Serious				
6. Sensitive				
7. Jealous				
8. Popular				
9. Shy				
10. Clumsy				
11. Show-off				
12. Afraid				
13. Kind				
14. Modest				
15. Proud				
16. Lazy				
17. Neat				
18. Thrifty				
19. Even-tempered				
20. Dependable				
21. Angry				
22. Moody				
23. Open-minded				
24. Unreasonable				
25. Demanding				

***Career Exploration, A Guide for Teachers**. (Oklahoma State Department of Vocational and Technical Education), p. 14. Printed with permission.

4. Students may clarify their interests by filling out this chart.

SELF-APPRAISAL INTEREST CHART*

List below some of the activities which you like best and some you like least.

1. IN SCHOOL —

   Subjects I like best:

   Subjects I like least:

2. OUTSIDE OF SCHOOL —

3. THINGS I WILL DO WHEN I CAN DO AS I CHOOSE —

4. SOME THINGS I HAVE NEVER DONE BUT WOULD LIKE TO DO

5. SOME JOBS I HAVE HELD, EITHER FOR PAY OR ON A VOLUNTARY BASIS —

   Things I liked about these jobs:

   Things I disliked about these jobs:

6. MY HOBBIES —

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*__Career Exploration, A Guide for Teachers.__ (Oklahoma State Department of Vocational and Technical Education), p. 24. Printed with permission.

5. Employers look for positive traits when they evaluate employees. Have students rate themselves on the SELF-EVALUATION FORM on how they feel that they will perform on their first job.

SELF-EVALUATION FORM*

Choose one of the four statements under each item which best describes the trainee's attitude or performance. Place the letter (a, b, c, d) in the blank.

ATTITUDES AND TRAITS

1. COOPERATION — ability to get along with others.
   a. Usually gets along with others.
   b. Sometimes pulls against rather than works with others.
   c. Cooperates willingly.
   d. Is difficult to handle. ______

2. INITIATIVE — tendency to go ahead.
   a. Does routine work acceptably.
   b. Does work fairly well by himself or herself.
   c. Takes very little initiative, requires urging.
   d. Looks for things to learn and do. ______

3. COURTESY
   a. Usually is polite.
   b. Has been discourteous to public and staff.
   c. Is not particularly courteous in action or speech.
   d. Is very courteous and considerate of others. ______

4. ATTITUDE TOWARD CRITICISM
   a. Resents criticism.
   b. Pays little attention to criticism.
   c. Profits by suggestions.
   d. Accepts criticism, but does nothing about it.
   e. Asks for constructive criticism. ______

5. NEATNESS AND PERSONAL GROOMING
   a. Should make effort to improve appearance.
   b. Looks neat most of the time.
   c. Often neglects appearance.
   d. Is attractive and pleasing in appearance. ______

6. KNOWLEDGE OF JOB
   a. Has learned necessary routine but needs supervision.
   b. Needs little or no supervision.
   c. Has not tried to learn job.
   d. Shows desire to learn more about his or her job. ______

*Helen Gum Westlake, "The Occupational Aspect of the Home Economics Program at East Leyden High School, Franklin, Arkansas," Illinois Teacher, VIII, No. 3 (1964-65,) pp. 122-123. Printed with permission. Titled supplied.

Self-Evaluation continued:

7. ACCURACY OF WORK
    a. Is extremely careless.
    b. Is as accurate as the average employee.
    c. Is frequently inaccurate and careless.
    d. Follows through his or her job with a high degree of accuracy. _____

8. WORK HABITS
    a. Wastes time occasionally.
    b. Is industrious; keeps busy.
    c. Often wastes time.
    d. Is fast and efficient. _____

To help make your trainee a better employee, is there anything else that is not covered in this rating sheet that you would like to comment on?

____

____

____

____

In your estimation, has this trainee improved, _____ stayed the same _____ or become lax since his or her previous rating _____. SUPERVISOR __________

Suggested Review Survey:

Match the answers on the right (letters) with the corresponding items (numbers) on the left. Some of the answers may be used more than once.

______ 1. Athlete

______ 2. Waiter

______ 3. Teacher

______ 4. Electrician

______ 5. Mechanic

______ 6. Barber

______ 7. Cashier

______ 8. Game Warden

______ 9. Salesman

______10. X-Ray Technician

A. Service

B. Business Contact

C. Organization

D. Technology

E. Outdoor

F. Science

G. General Cultural

H. Arts and Entertainment

Answers to suggested review survey: 1, H; 2, A; 3, G; 4, D; 5, D; 6, A; 7, C; 8, E; 9, B; 10, F.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Free Printed Materials:

CHOOSING YOUR OCCUPATION 168 a

FACING FACTS ABOUT CHOOSING YOUR LIFE'S WORK 143 a

Supplementary Books and Pamphlets:

DISCOVERING YOURSELF 237 a

FINDING YOUR ORBIT 218 a

HOW TO CHOOSE YOUR WORK 217 a

HOW TO GET THE RIGHT JOB AND KEEP IT 229 a

GUIDANCE IN ACTION: IDEAS AND INNOVATIONS FOR SCHOOL COUNSELORS 233 a

MY EDUCATIONAL PLANS 237 c

THE PSYCHOLOGY OF OCCUPATIONS 227 a

TEST SCORES AND WHAT THEY MEAN 234 a

WHAT TO DO AFTER HIGH SCHOOL 237 e

Filmstrips:

CHOOSING YOUR CAREER 241 b

PREPARING FOR THE JOBS OF THE 70'S 241 n

PREPARING FOR THE WORLD OF WORK 241 o

Tapes:

TOMORROW'S JOBS — PART I/TOMORROW'S JOBS — PART II 242 a

VII. Exploring Service Occupations

Do you like to do things for other people? If so, you may find some occupations in the Service Group which are similar to your interests. These occupations are people-oriented. They always involve one person doing something for or to another person. Service occupations are concerned with attending to the personal tastes, needs, and welfare of other people.

The following questions about Service occupations will be discussed:

1. **What occupations are in the Service Group?**
2. **What is the nature of the work in Service occupations?**
3. **How important are Service occupations?**
4. **What education or training is desirable for success in Service occupations?**
5. **Where is employment in Service occupations found?**

1. What occupations are in the Service Group?

Examples of occupations in the Service Group are listed below. The examples are listed by level. A brief description of each is also given. It is suggested that other references be consulted for more detailed information.

Level 1

Psychologist—studies the behavior of individuals and groups, seeks to understand people and to explain their actions.
(OEK 137) (DOT 045.108)*

Social work supervisor—supervises persons performing social service functions. Persons doing this kind of work are social workers. Their work is normally with welfare agencies or similar organizations.
(OEK 80) (DOT 195.168)

Level 2

Caseworker—identifies the social problems of individuals and families through interviews; aids them in understanding their problems and in securing necessary services.
(OEK 80) (DOT 195.108)

Child welfare worker—improves the physical and emotional well-being of deprived and troubled children and youth.
(OEK 80) (DOT 195.108)

Counselor, rehabilitation—helps handicapped persons make a satisfactory occupational adjustment.
(OEK 140) (DOT 045.108)

Counselor, school—helps with the personal and social adjustment of students and aids in the prevention or correction of problems that may interfere with their success; advises in educational and vocational decisions.
(OEK 244) (DOT 045.108)

Counselor, vocational—helps people develop and accept an adequate career goal which will use the individual's potential and bring personal satisfaction.
(OEK 244) (DOT 045.108)

FBI agent—investigates many types of violations of federal laws such as bank robberies, sabotage, or kidnapping.
(OEK 55) (DOT 375.268)

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*Refer to OEK and DOT coding system on page T-2 of introduction to Teacher's Edition.

Governess—cares for children in private homes; teaches language and personal traits; oversees their recreation, diet, and health; and handles social and disciplinary problems.
(OEK 265) (DOT 099.228)

Parole officer—concerned with activities related to the conditional release of juveniles or adults from correctional institutions.
(OEK 289) (DOT 195.108)

Placement officer—provides various job placement services for students and former students. Vocational schools and colleges may have placement officers.
(OEK 391) (DOT 166.268)

Social worker, community—helps plan and develop health, housing, welfare, and recreational services for a neighborhood or community.
(OEK 80) (DOT 195.108)

Social worker, group—helps people, through group activities, learn to understand themselves and others better, and to work with others to achieve a common goal.
(OEK 80) (DOT 195.108)

Social worker, school—helps children who have unsatisfactory behavior. The behavior problems may be related to social problems.
(OEK 80) (DOT 195.108)

Speech pathologist—studies speech and language problems; diagnostic and counseling services may be provided to persons with these problems.
(OEK 148) (DOT 079.108)

Therapist, occupational—plans, organizes, and directs activities to aid handicapped persons in developing skills related to the world of work.
(OEK 73) (DOT 079.128)

Therapist, physical—treats disabled or handicapped persons. Instruction is given to aid in overcoming handicaps so the afflicted person may assume a relatively normal role in society.
(OEK 76) (DOT 079.378)

Level 3

Butler—supervises and coordinates the work of household employees. Performs many services such as supervising the preparation and serving of food, delivering messages, and receiving guests.
(OEK 265) (DOT 309.138)

Fire captain—supervises the work of firefighters.
(OEK 52) (DOT 373.168)

Housekeeper, home—manages a house, such as a governor's mansion, where there is a large staff of other household employees.
(OEK 326) (DOT 187.118)

Police chief—directs the activities of policemen.
(OEK 54) (DOT 375.118)

Recreation worker—helps people enjoy and use their leisure time constructively by organizing individual and group activities and by administering physical, social, and cultural programs for all age groups at camps, playgrounds, and community centers.
(OEK 78) (DOT 195.228)

Level 4

Barber—cuts hair in accordance with the preference of each customer; also provides services related to care of hair, scalp, and face.
(OEK 162) (DOT 330.371)

Beautician—provides a variety of beauty services, most of which are related to the care of hair. A beautician may cut, style, color, and set hair; give scalp treatments, apply eyelash and eyebrow color; remove facial hair; give manicures or pedicures; and give facials and work with other cosmetics.
(OEK 112) (DOT 332.271)

Chef—supervises the activities of cooks and other kitchen personnel in restaurants and cafeterias. A chef may also plan menus and develop new recipes.
(OEK 115) (DOT 313.131)

Lifeguard—promotes safety by observing activities in swimming areas and providing aid, if needed.
(DOT 379.868)

Policeman—helps to preserve law and order by preventing criminal activities, investigating crimes, and by apprehending and assisting in the prosecution of offenders.
(OEK 54) (DOT 375.268)

Policewoman—works with women and youth in such activities as locating lost children, and searching, questioning, booking, and fingerprinting women prisoners.
(OEK 107) (DOT 375.268)

Practical nurse—works under the direction of physicians and professional nurses and assists in caring for medical and surgical patients, convalescents, handicapped people, and others who are physically or mentally ill. Such a person must undergo a period of training and be licensed. Frequently known as "licensed practical nurse" (LPN).
(OEK 119 (DOT 354.878)

Steward, airline—man who helps to make air flights safe, comfortable, and enjoyable.
(OEK 120) (DOT 352.878)

Stewardess, airline—woman who helps to make air flights safe, comfortable, and enjoyable.
(OEK 120) (DOT 352.878)

Level 5

Bellhop—carries the baggage for incoming hotel guests, escorts them to rooms, and sees that everything in the room is in order.
(OEK 13) (DOT 324.878)

Cook, restaurant—prepares, seasons, and cooks soups, meats, vegetables, desserts, and other foodstuff.
(OEK 115) (DOT 313.131)

Firefighter—participates in many different kinds of firefighting activities, helps people to safety, administers first aid, and helps in preventing fires.
(OEK 52) (DOT 373.884)

Housekeeper—supervises work activities of cleaning personnel to insure clean, orderly, and attractive rooms in motels, hospitals, and similar establishments.
(OEK 265) (DOT 187.118)

Service station attendant—greets customers, inquires about their needs, and performs a variety of services for the customers, ranging from pumping gas to giving street directions.
(OEK 60) (DOT 915.867)

Taxi driver—provides passenger transportation within a community; assists passengers in and out of the cab, and handles baggage.
(OEK 158) (DOT 913.463)

Waiter—man who works in restaurants taking customers' orders, serving food and beverages, and making out customers' checks.
(OEK 267) (DOT 311.878)

Waitress—woman who works in restaurants taking customers' orders, serving food and beverages, and making out customers' checks.
(OEK 267) (DOT 311.878)

Level 6

Busboy or busgirl—assists with serving food; may also set tables, remove dirty dishes, and perform various cleaning activities.
(OEK 317) (DOT 311.878)

Cook's helper—prepares vegetables and meats and does other work for cook.
(OEK 115) (DOT 318.887)

Nurse aide—works under the direction and supervision of registered professional nurses and licensed practical nurses, and performs such services as answering call bells, serving meals, making beds, and bathing or dressing patients.
(OEK 236) (DOT 355.878)

Orderly—man who performs the same duties as nurse aide.
(OEK 236) (DOT 355.878)

Nursemaid—attends to young children in private homes. Such a person is commonly known as a babysitter.
(OEK 265) (DOT 708.878)

2. *What is the nature of the work in Service occupations?*

The nature of the work in Service occupations varies considerably from one occupation to another. However, these occupations also have some similarities.

① **Service occupations involve doing things for other people.** There is wide variation in the kinds of things done. **Some are concerned with the mental and physical welfare of people.** These require considerable education and patience. Work in certain of these occupations involves helping people overcome handicaps. Social workers and counselors assist with numerous problems, including helping disadvantaged persons.

The work of police officers and firemen is concerned with protecting and maintaining property and persons. An element of danger is involved in the performance of duties. Sometimes these persons must work long hours and must work outside in bad weather.

Catering to the whims and tastes of people is a major part of the duties of some Service workers. Airline stewardesses care for the safety of passengers and attempt to make them comfortable. Such workers may be away from home quite often. An attractive fringe benefit is special personal travel rates. Some of the work of stewardesses is similar to that of waiters and waitresses. Waiters are responsible for a wide range of work. Quite often, they must carry trays of food, drinks, dishes, or utensils. They must be able to take orders and figure bills accurately. They may be assisted by busboys.

Service work involves activity. People in these occupations must usually be physically active. Courtesy and politeness are vital. Neat clothing and appearance are necessary in all work in which public contact is involved. Some Service occupations require uniforms or other special clothing.

3. *How important are Service occupations?*

② **By reviewing a list of occupations in this Group, it is obvious that Service occupations are important. The number of workers in some of these occupations is shown below.**

Occupation	*Approximate Number of Workers in the Occupation*
Psychologist	32,000
Counselor	75,000
Social Worker	160,000
Therapist	21,000
Firefighter	180,000
Police Officer	320,000
Stewardess, airline (and steward)	30,000
Waitress (and waiter)	960,000
Practical Nurse	320,000

4. *What education or training is desirable for success in Service occupations?*

③ Considerable variation in the amount of education required exists among Service occupations. Persons who have the most education are likely to find work at higher levels. It should be noted that education alone does not mean that one will be successful in his work. Motivation and hard work are also important factors.

Within occupations persons with different amounts of education are found. Those persons with more are apt to be supervisors and to be responsible for making some decisions. The amount of pay may also be related to education. Of course, seniority and experience are used in establishing the rank of workers.

The amount of education and training required for a few of the occupations in the Service Group is listed below.

A Barber at Work. (Courtesy E.I. du Pont de Nemours and Company, Inc., Wilmington, Delaware.)

Occupation	*General Minimum Educational Requirements*
Psychologist	Master's degree with a major in psychology.
Counselor	Bachelor's degree, preferably with a major in a social science, plus 15 semester hours in counseling and related courses. School counselors may be required to have a teaching certificate.
Social worker	Bachelor's degree, preferably in social welfare. Specialized work may require at least a Master's degree.
Therapist	Degree or certificate in occupational therapy.
Firefighter	Be able to pass intelligence and physical examinations. Training is usually given after entry. Some take vocational training in firemanship.

Police officer	Considerable variation. High School is desirable. Training is usually given after entry. Specialists may need college education.
Stewardess, airline (and steward)	High school education, persons with some college are preferred. Training of about five weeks duration is given after job entry.
Waitress (and waiter)	No real educational requirements. Preference is given to those with some high school education, especially if it includes home economics.
Practical Nurse	Course of instruction in practical nursing in addition to at least two years of high school.

Personal traits often determine success in an occupation. People who have the personal traits listed below may enjoy, and be successful in, Service occupations:

1. Prefers to work with the problems and needs of others, rather than in an industrial or office environment.
2. Is willing to and capable of engaging in professional preparation (this would not be essential for some Service occupations)
3. Has good verbal aptitude
4. Has pleasing manner and appearance
5. Is dependable
6. Has the ability to perform under specific instructions
7. Has self control and ability to perform adequately under stress (stability)
8. Has the ability to understand and comply with requests of people
9. Is patient and courteous when dealing with people
10. Has pleasing personality
11. Has the ability to put people at ease
12. Has the ability to relate to people at all levels
13. Is quick-thinking and able to adapt to varied situations and responses
14. Is patient and sympathetic toward problems of others
15. Is attentive (with ability to pay attention to detail)
16. Has clean personal habits
17. Has the ability to achieve and maintain empathy and rapport with people
18. Has sympathetic attitude toward the welfare of others.
19. Has tact and poise

These traits do not apply to all Service occupations. Some occupations may require other traits. However, the ones listed above occur most often.

5. *Where is employment in Service occupations found?*

Employment in Service occupations is found almost everywhere. Opportunities in some of the occupations are greater in areas with concentrations of people. Since Service occupations are concerned with attending to the needs and whims of people, it is only natural that more of them would be found in cities. However, smaller cities and towns also have some opportunities.

Goal:

Students should become familiar with Service occupations and the interests and abilities which are important for success in these areas. They should also compare their own interests and abilities with those needed for success in various Service occupations.

After the students have read Chapter VII, have them discuss the following questions:

Review Questions:

1. What is a "Service occupation?" p. 56
2. Which of the Service occupations are most important? Why? p. 56
3. How wide is the range in the amount of education and training required? p. 57

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. List examples of times when you have done something for or to someone that would be considered part of a Service occupation. In preparing the list, consider the definition of the Service Group.

   a. If students have difficulty thinking of Service activities which they have performed, the teacher may want to give them some examples. They may also list a Service occupation which corresponds to each activity. For example:

      Caring for members of my family when they are sick corresponds to a nurse's aid.

      Helping prepare and serve a meal for my family corresponds to a cook, waiter, or waitress.

      Rolling or combing my mother's or sister's hair corresponds to a beautician.

      Listening to friends tell about their problems corresponds to a counselor.

   b. Have students make a master list of Service activities they have performed and match them with corresponding occupations.

2. Review various occupational information materials. Carefully note all occupations which are in the Service Group. List occupations other than those given in this publication which you believe are in the Service Group.
   Refer to Appendix P and references listed at the end of this chapter.
3. Invite someone who is employed in a Service occupation to visit your class and discuss the nature of his work.
   Refer to Appendix D.

4. Develop a display, bulletin board, or poster depicting occupations in the Service Group. Clip pictures from magazines or newspapers which show workers in Service occupations.

5. Review the want ads of a newspaper. Cut out those in the Service Group and place them on a poster or bulletin board. Note where the jobs are found, the rate of pay, and the requirements for entry.
Refer to Appendix I.

6. Review the yellow pages of the local telephone directory. Make a list of all businesses which might have Service occupations.

7. Select one or more occupations in the Service Group in which you are interested. Determine the following information for each occupation: (Your teacher may have prepared some forms for your use.)

OCCUPATIONAL STUDY OUTLINE

A. *Name of Occupation:*

B. *Duties of the Occupation:*

C. *Qualifications:* What are the personal requirements?

D. *Age:* How old must I be to enter the occupation?

E. *Sex:* Is this an occupation in which others of my sex are normally employed?

F. *Specific Physical and Health Requirements:* Am I the correct height to do the work? Are my eyesight and hearing adequate? Am I strong enough?

G. *Interest:* Do I possess this interest? If not, could I develop interest in this type of work?

H. *Abilities:* Do I possess the required abilities? If not, could I acquire the knowledge and skills necessary to do the job?

I. *Personality:* Do I possess the personal qualities necessary for doing this type of work? If not, could I develop these qualities?

J. *Values and Attitudes:* Does anything about this job violate values and attitudes I have about people and work? If so, could I adjust to situations that required that I change my values and attitudes?

K. *Preparation:* What subjects do I need to study? What special training will I need? How long will it take to receive this training? How much will it cost? Can I get this training within the state? Is work experience required for entry into this occupation? What is the method of entry into this occupation?

L. *Working Conditions on the Job:* Is it hazardous work? Is it noisy or dirty? Will I be working in shifts? Will I work indoors or outdoors? Is it hard work? Does the work require being away from home for long periods of time?

M. *Rewards from Work:* How much is the beginning pay? Is there chance for advancement? Will this work experience help me get a better job? Would I be happy doing this type of work?

N. *Employment Outlook:* How many are employed in the occupation at present? Are there employment opportunities in my community or state for this type of work?

O. *Special Requirements (such as certification, licenses, and examinations):*

8. Select one or more of the following activities which pertain to law enforcement occupations:
   a. Arrange to view the following films (for policeman, policewoman, FBI agent):
      Thin Blue Line (policeman)
      The Law Enforcement Officer

      Source: Modern Talking Pictures Service
      214 S. Cleveland St.
      Memphis, TN 38104
   b. Get permission to accompany a law enforcement officer on patrol. Through observation and questioning, find out what role the officer plays in the following services:
      (1) Investigating, identifying, and reporting
      (2) Traffic problems
      (3) Patrol
      (4) Obtaining evidence
      (5) Testifying

      Find out what materials and equipment are essential to his job. This would include report forms, weapons, penal codes, city maps, first aid kits, and weather and night protection equipment.

9. Visit a local fire department and observe and/or ask questions to obtain the following information.
   a. What happens when the alarm sounds?
   b. How is the run to the fire made?
   c. What size-up system or plan is used at the fire?
   d. What rescue procedures are followed?
   e. What methods of fire prevention are used?
   f. What is the procedure for extinguishing fires?
   g. Salvage—what is it and how is it accomplished?
   h. Examine the firefighting and rescue equipment, including fire pumps, fire extinguishers, hose, foam generators, nozzles, and ladders.

   Spend enough time at the fire station to see the activity that occurs after one or more fire alarms sound; observe the activity of all concerned. Ask to try your hand at coupling a hose, loading and unloading a hose, and stretching an advancing hose. Ask for a demonstration of the use of ropes in firefighting. Ask for permission to put on the protective clothing the firefighter must wear. You may also ask them to demonstrate the procedure for raising ladders, and using the ladders safely.

   Refer to Appendix E.

10. Arrange to go to the scene of a fire to observe activities of the firefighters. Caution: Stay a safe distance away from the fire and out of the way of firefighters.

    Refer to Appendix E.

    Do the following rescue and first aid activities in the classroom:
    a. Fireman's carry.
       (1) Get someone in the classroom to lie on the floor and pretend to be unconscious
       (2) Pass your hands under the armpits of the unconscious person
       (3) Lift to your knee
       (4) Rise to standing position
       (5) Place on shoulder
       (6) Stand up with person on shoulder

       Note: Persons not physically capable of doing this exercise should not participate.

b. Care of victims after rescue. Obtain a first aid book from the local Red Cross chapter and use the procedures suggested for treating burns and for administering artificial respiration.

Borrow a firefighter's manual to review. Obtain this and other reading materials from the local fire department. Also, fire prevention materials may be acquired by contacting almost any insurance agent.

11. Perform one or more of the following activities related to the occupations of social workers:

a. View the following films:

Horizons Unlimited. Source: Modern Talking Picture Service
214 S. Cleveland St.
Memphis, Tennessee 38101

Come Quick. Source: Association Films, Inc.
2221 Faulkner Road, N.E.
Atlanta, Georgia 30324

The Return. Source: Vocational Rehabilitation Administration
Department of Health, Education, and Welfare
Washington, D.C. 20201

b. Identify a needy family through a local church or the welfare department. You will need the following information:

(1) Number of people in the family (living at home)
(2) Ages of members of the family
(3) Number of children; age, and sex of each
(4) Parents' occupations
(5) Amount of income of family
(6) Number of children in school
(7) Where family lives

c. Participate in one or more of the following activities:

(1) Visit and talk with members of the needy family. Become friends with them. Observe the home environment.
(2) Arrange a box of canned food and carry it to these people. Observe their reactions.
(3) Collect good clothing no longer needed from friends and relatives. Attempt to get clothes that will fit family members. Take these to the family. Take time to establish a friendly relationship. Show a sincere desire to help them in any way you can.

(Should you discover a family in dire need of assistance and not getting any assistance from welfare or any other source, talk with those who work with the welfare department, or rehabilitation center, or with a church pastor, or anyone whom you feel could help.)

d. Read the following book:
Careers in Social Service by Kathlyn Gay (1969). If not available in the library, it may be ordered from Julian Messner, 1 West 39th St., New York, N.Y. 10018.

12. Conduct one or more of the following activities related to the occupations of an Occupational Therapist and a Physical Therapist:

a. Arrange to visit a hospital or other institution that employs someone in planning and directing therapeutic programs. Ask to observe the activities of those who are giving therapeutic treatment.

Refer to Appendix E.

b. Interview a psychologist who may be employed in one of the following places: schools, hospitals, public health agencies, research laboratories, or business. Ask about the type of work that he is doing (clinical, research, etc.).

Refer to Appendix F.

14. Counselors.

Much of the work of the counselor in your school should be obvious to you through regular personal contact. Discuss this occupation with the occupational orientation teacher or the counselor. Inquire about employment opportunities, personal and educational requirements, and what preparation is immediately necessary to become a counselor.

15. Conduct some of the following activities related to the work of housekeepers, butlers, and maids:

   a. Plan to do several of the following activities:
      (1) Mend a pair of torn trousers.
      (2) Wash and iron clothes.
      (3) Prepare a meal for two adults and three children.
      (4) Wax and polish floors and furniture.
      (5) Answer the phone for a resident owner.

   Seek the cooperation of the home economics teacher in helping you plan and conduct these activities, and in arranging for the items needed.

   b. Visit the local office of the state employment service to find out employment opportunities for private-household work, working hours for the various workers, and the amount of pay received.

16. Chefs, cooks, and cook-helpers may be required to do work similar to that listed below. See how well you like these occupations by doing some of the activities.

   a. Do the following activities:
      (1) Prepare a raw salad (four servings).
      (2) Prepare biscuits, using soft dough.
      (3) Prepare soup, (four servings) using meat, extracted juices, and seasonings.
      (4) Prepare a meat dish (four servings).
      (5) Prepare a dessert (four servings).

   Seek the cooperation of the home economics teacher in helping you plan and conduct these activities, and in arranging for the items needed.

   b. Plan a trip to a restaurant:
      (1) Compile a list of kitchen equipment used in this restaurant.
      (2) Compile a list of storage equipment for food preservation.
      (3) Write down the weekly food menu.
      (4) Write down the duties being performed by the cooks.

   Plan to spend some time in the kitchen observing the work. If your interest in being a cook is strong, volunteer to assist the cook for several hours. You may also apply for part-time work during the summer months.

   c. Write to the following sources for additional information:

   American Hotel Association, 221 West 57th St., New York, N.Y. 10019.

   Educational Director, National Restaurant Association, 1530 North Lake Shore Drive, Chicago, Illinois 60610.

   Council on Hotel, Restaurant and Institutional Education, Statler Hall, Cornell University, Ithaca, N.Y. 14850.

17. Engage in activities related to the occupations of waiter and waitress.

   a. Plan the following mock activity:
      (1) Arrange for the following items to be used in the activity: Food order blanks, table and chairs, table cloth, menus, and eating and drinking utensils.
      (2) Prepare the table correctly for the customer.
      (3) Take an order from a customer (student from occupational orientation class), using the order blank.
      (4) Greet the customer as he comes in.

(5) Hand menu to customer for selection of food and drink.
(6) Assist customer in making a choice, if necessary.
(7) Take customer's order, using the order blank.
(8) Serve the food and drink to customer.
(9) Hand bill to customer when finished.
(10) Collect the money for the meal.
(11) Clean the table.

b. Go to several eating places where waitresses and/or waiters are on duty. Order a meal, or, if you prefer, order only a drink, a salad, or a dessert. Write a summary of your observations. Include the following.
  (1) Location of each place visited.
  (2) Relative size of the places visited, volume of business, and number of waiters and waitresses on duty.
  (3) Working environment—how nice is each establishment?
  (4) The type of food service—short orders, take out, etc.
  (5) Specialties—this information usually is on the menu.
  (6) Duties performed by the waiters and waitresses.

c. Volunteer to assist in minor waiter or waitress duties at a local restaurant. This may lead to a part-time job after school hours and during the summer months.

d. Write to the following source for additional information:

Council on Hotel, Restaurant, and Institutional Education, Statler Hall, Cornell University, Ithaca, New York 14850.

18. Investigate the occupation of a bellhop.

a. Visit the local office of the state employment service to find out about employment opportunities for bellhops. Arrange to talk with a bellhop employed at a local hotel about the nature of his duties, the work hours, pay received through tips, and methods of entering the occupation. You may also visit with the personnel manager and talk with him about the work of bellhops and bell captains.

b. Write the following source for additional information:

American Hotel and Motel Association, 221 West 57th St., New York, N.Y. 10019.

19. Many young people view the work of airline stewards and stewardesses as glamorous. Determine this for yourself.
Plan to do one or more of the following activities:

a. Visit with stewards or stewardesses employed by airline companies, or talk with those employed in airline personnel offices about the occupational requirements.

b. Obtain brochures from major airline companies and private training schools describing the work of airline stewardesses.

Write the following sources for information:

Air Line Stewards and Stewardesses Association International, 55th and Cicero Ave., Chicago, Illinois 60638.

Correspondence Inquiry Branch MS-126, Federal Aviation Agency, Washington, D.C.

c. Obtain part-time work to gain business experience. Contribute time in community service work to get experience in dealing with people.

d. View the following film:

The Stewardess Story. Available from Modern Talking Picture Service
214 South Cleveland Street
Memphis, Tennessee 38104

20. Investigate the occupation of a taxi driver. Do one of the following activities:
    a. Observe a taxi driver by getting permission to ride in a taxi and by asking the driver questions about the occupation.
    b. Arrange to visit with the personnel director of a taxi cab company. Determine how taxi drivers are paid, working hours, fringe benefits, and other information pertaining to the occupation.

21. Explore the work of a service station attendant by doing one of the following:
    a. Interview several service station attendants. Observe for an hour the duties performed by the attendant.
    b. Arrange to spend some time helping the attendant around a service station.
    c. Write to the following source for information:

       American Petroleum Institute, Marketing Division, 1271 Avenue of the Americas, New York, N.Y. 10020.

22. Make a list of courses offered in your school. Investigate how these courses aid in developing skills needed for employment in Service occupations. Find out which courses in your school may lead directly to employment after graduation.

Additional Occupations:

Additional occupations included in the OEK which may be classified in the Service Group are listed below:

Building Service Workers (OEK 101) (DOT 899.381)
Armed Forces (OEK 161) (DOT 368.999)
Psychiatric Social Workers (OEK 246) (DOT 195.108)
Psychiatrists (OEK 247) (DOT 070.108)
Religious Vocations (OEK 249) (DOT 129.108)
Detectives (OEK 274) (DOT 376.868)
Camp Counselors (OEK 283) (DOT 159.228)
Guards, Watchmen, and Alarm System Workers (OEK 297) (DOT 372.868)
Railroad Dining-Car Waiters (OEK 308) (DOT 311.878)
Apartment Building Janitors (OEK 336) (DOT 382.884)
Parking Attendants (OEK 341) (DOT 915.878)
Doormen (OEK 378) (DOT 324.878)
Caterers (OEK 383) (DOT 187.168)
Criminologists (OEK 385) (DOT 054.088)

Additional Activities:

1. Have students discuss the following situation:

WHAT WOULD YOU DO?

Howard has always wanted to be a police officer. He has a friend, Bill, who is with the State Highway Patrol.

During the last few years, many people have changed their attitudes toward law officers. One day at school, Howard talked in class about wanting to be a policeman. Some of the kids laughed and began to call him, "The Fuzz." Since that day, Howard has not mentioned police work.

Howard feels very confused. When he is with his older friend, Bill, Howard wants to be in law enforcement very badly. When Howard is with the boys his age, he becomes embarrassed about police work and says that he wants to be an automobile mechanic.

What would you do?

OCC. BD.
JOB TITLE
JOB DES.
BASIC ED
TECH. ED
AGE
SALARY
MACHINE
BENEFITS
COMMENT
Barber
CUTS HAIR AN

Student sharing his research of a Service occupation with the class. (Courtesy Dixie Electric Power Association, Laurel, Mississippi.)

2. Students may use this form to relate the importance of school subjects to various jobs in the Service category. They should complete the chart with jobs which interest them most.

SCHOOL SUBJECTS AND JOBS*

Fill in Job Blanks	Speech	English	Writing	Math	Science	Social Studies	Art	Music	Shop & Home Ec.	Other	Other
F. B. I. Agent											
Practical Nurse											

Make code entries on chart.

CODES:	E - Essential	Subject matter is absolutely necessary for success on the job or for completion of educational requirements for the job.
	I - Important	The subject matter is important to success on the job, although it may not always be an absolute requirement.
	U - Useful	The subject is very useful for the job and is usually directly related.
	S - Somewhat Useful	The subject is somewhat useful for the job.

***Career Exploration, A Guide for Teachers.** (Oklahoma State Department of Vocational and Technical Education), p. 37. Printed with permission.

3. Many people have faulty notions of the pay earned by those who make a career of the service. Recent pay raises may make a military career attractive to students graduating from high school. Listed below are estimated salaries plus quarters and subsistence allowances for various grades with typical years of service.

General	$42,231
Lieutenant General	$38,216
Major General	$34,404
Brigadier General	$30,437
Colonel	$25,065
Lieutenant Colonel	$21,725
Major	$18,989
Captain	$15,000
First Lieutenant	$12,631
Second Lieutenant	$ 8,642
Master Sergeant	$11,891
Sergeant First Class	$10,757
Sergeant	$ 8,136
Corporal	$ 7,002
Private First Class	$ 5,796

U. S. Depart. of Defense 1972

4. Have students discuss the problems which would arise if we were without the services performed by people who work in the Service occupations. For instance, how would our society function without the aid of the police?

Suggested Review Survey:

Circle the best answer.

T F 1. More workers are employed as police officers than in any other Service occupation.

T F 2. Most workers in Service occupations require the same amount of education.

T F 3. A practical nurse must have at least two years of college.

T F 4. Employment in the Service occupations is found only in towns over 10,000 in population.

T F 5. Service occupations involve doing things for other people.

T F 6. A minimum of a high school education is required to be considered for employment as a stewardess.

T F 7. Catering to the whims and tastes of people is a major part of the duties of some Service workers.

T F 8. Pleasing manner and appearance are desirable traits for those considering employment in Service occupations.

T F 9. Mechanical engineers are classified under level 2 in the Service occupations.

T F 10. Parole officers are usually required to have a college education.

Answers to suggested review survey: 1, F; 2, F; 3, F; 4, F; 5, T; 6, T; 7, T; 8, T; 9, F; 10, T.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Free Printed Materials:

Armed Services

BASIC FACTS ABOUT MILITARY SERVICE 97 a
GATEWAY TO AEROSPACE 163 a
MARINE NAVMC 7070 173 a
OFFICER OF MARINES NAVMC 7113 173 b
QUESTIONS AND ANSWERS ABOUT THE AIR FORCE 162 a
SECRET OF GETTING AHEAD, THE 164 a
SHOULD YOU MAKE A CAREER IN THE ARMED SERVICES? 136 a3
UNITED STATES AIR FORCE BROCHURE, THE 162 b
WOMEN MARINE NAVMC 7038 173 c
WOMEN MARINE OFFICERS NAVMC 7037 137 d
WOMEN OFFICERS IN THE AIR FORCE 162 c
WOULDN'T IT BE THE SMART THING FOR YOU TO STAY IN SCHOOL? 164 b

Beautician

BEAUTY OPERATOR (Job Opportunity Guide) 139 b

Cook

COOK (Occupational Guide) 112f

Counselor

COUNSELING: A HELPING RELATIONSHIP 44a
SHOULD YOU GO INTO COUNSELING? 136 q2

FBI Agent

FBI CAREER OPPORTUNITIES 88a

Fireman

HIGH SCHOOL GRADUATES CONSIDER — FIREFIGHTING 102 a
TODAY'S FIRE FIGHTER — IS A PROFESSIONAL 103 a

Food Service

COUNSELOR KIT — FOOD SERVICE INDUSTRY 133 a
FOOD SERVICE OCCUPATIONS (Job Opportunity Guide) 139 d

Guard

PROTECTIVE SERVICE OCCUPATIONS (Job Opportunity Guide) 139 h

Hotel Industry
    CHOOSE A HOTEL/MOTEL CAREER 28 a
Law Enforcement
    CAREERS IN THE CRIMINAL JUSTICE SYSTEM 124 a
    SHOULD YOU GO INTO LAW ENFORCEMENT? 136 t2
Nurse
    LICENSED PRACTICAL NURSE (Occupational Guide) 112 n
    LICENSED PRACTICAL NURSE (Job Opportunity Guide) 139 f
    NURSE AID (Occupational Guide) 112 l
Psychologist
    CAREER IN INDUSTRIAL PSYCHOLOGY, A 49 a
    CAREER IN PSYCHOLOGY, A 49 b
Rehabilitation
    A-B-C'S OF OCCUPATIONAL THERAPY 41 a
    CAREERS IN PHYSICAL THERAPY 47 a
    HOW WILL YOU CHOOSE TO HELP OTHERS? 132 a
    MUSIC THERAPY AS A CAREER 119 a
    OCCUPATIONAL THERAPY HANDBOOK 41 b
    REHABILITATION THERAPISTS IN THE VETERAN'S ADMINISTRATION 174 a
    SHOULD YOU GO INTO REHABILITATION SERVICES? 136 y2
    UP AGAINST THE WALL 132 b
Social Worker
    SHOULD YOU BE A SOCIAL WORKER? 136 h2
Speech Pathologist
    SPEECH PATHOLOGIST AND ADUIOLOGY — CAREER INFORMATION 63 a
Stewardess
    AIRPLANE HOSTESS (Occupational Guide) 112 a
    BE A WOMAN OF THE WORLD 157 a
    STEWARDESSES 113 a
Youth Services
    SHOULD YOU SEEK A CAREER IN YOUTH SERVICES? 136 c3

Free Films:

Armed Services
- ADVENTURES IN INNER SPACE (MN-9680) (Nuclear Submariner) 188 a
- AIR FORCE NURSE, THE (SFP 1241) 186 a
- AIR FORCE'S FLYING HOSPITALS (SFP 1350) (Nurse) 186 b
- ALWAYS READY (Coast Guard) 213 a
- ARMY CHAPLAIN — YESTERDAY AND TODAY, THE (TV 538) 187 a
- ARMY NURSE — SOLDIER OF MERCY (TV 667) 187 b
- BACKBONE OF THE CORPS (MH 8754) (Marine NCO) 198 a
- BEGINNING, THE (MH 10863) (Marine) 198 b
- BRIGHT FUTURE (MH 9438) (Woman Marine Officer) 198 c
- CALL ME MISTER (TV 759) (Army Warrant Officer) 187 c
- CAREERS IN OCEANOGRAPHY (MN 10063) 188 b
- CHALLENGE, THE (MH 8598) (Marine) 198 d
- CHAPLAIN AND THE COMMANDER, THE (TV 532) 187 d
- CHOPPER PILOT (TV 694) 187 e
- COMBAT INFANTRY SOLDIER (TV 774) 187 f
- ENGINEERING FOR TOMORROW (TV 781) 187 g
- ENGINEERS UP (MH 19278k) 198 e
- FEMININE TOUCH, THE (TV 780) (WAC) 187 h
- MODERN MARINE (MH 10384) 198 f
- MOMENT IN TIME, A (MN 10367) (Photography) 188c
- NAVY FROGMEN (MN 8238) 188d
- NEW APPROACH, THE (SFP 1230) (Air Force ROTC) 186 c
- SOMETHING TO BUILD ON (TV 688) (Army) 187 i

Barber
- MEN'S HAIRSTYLING AS YOUR CAREER 205 c

Cosmetologist
- CAREERS IN COSMETOLOGY 205 b

Fireman
- NOBLE BREED, THE (3600) 201 i

Hospital Housekeepers
- IT'S YOUR CHALLENGE 194 a

Speech Therapist
- BREAKING THE SOUND BARRIER (5096) 181 a

Supplementary Books and Pamphlets:

Career Series

- OPPORTUNITIES IN THE HOTEL AND MOTEL INDUSTRY 240 m
- OPPORTUNITIES AS A MERCHANT MARINE 240 w
- OPPORTUNITIES IN SOCIAL WORK CAREERS 240 m2

Careers in Depth Series

- YOUR FUTURE IN THE AIR FORCE 236 d
- YOUR FUTURE AS AN AIRLINE STEWARDESS 236 e
- YOUR FUTURE IN THE ARMY 236 g
- YOUR FUTURE IN THE BEAUTY BUSINESS 236 j
- YOUR FUTURE IN BEAUTY CULTURE 236 k
- YOUR FUTURE AS A GUIDANCE COUNSELOR 236 h2
- YOUR FUTURE IN LAW ENFORCEMENT 236 t2
- YOUR FUTURE IN THE MARINE CORPS 236 v2
- YOUR FUTURE IN THE MERCHANT MARINE 236 z2
- YOUR FUTURE IN THE NAVY 236 g3
- YOUR FUTURE IN OCCUPATIONAL THERAPY 236 l3
- YOUR FUTURE IN SCHOOL PSYCHOLOGY 236 a4
- YOUR FUTURE IN SOCIAL WORK 236 d4

CONCISE HANDBOOK OF OCCUPATIONS 226 a

COWLES GUIDE TO CAREERS AND PROFESSIONS 219 a

ENCYCLOPEDIA OF CAREERS AND VOCATIONAL GUIDANCE 226 b

HANDBOOK OF JOB FACTS 237 b

OCCUPATIONAL LITERATURE, AN ANNOTATED BIBLIOGRAPHY 225 a

OCCUPATIONS AND CAREERS 230 b

ON THE JOB 226 c

Tapes:

American Occupations Series (Educational Sensory Programming)

- EMPLOYMENT COUNSELORS 242 g
- REHABILITATION COUNSELORS/SCHOOL COUNSELORS 242 h
- OCCUPATIONAL THERAPIST/PHYSICAL THERAPIST 242 p
- SPEECH PATHOLOGIST AND AUDIOLOGIST 242 q
- COLLEGE PLACEMENT OFFICER 242 k2
- PSYCHOLOGISTS/RECREATION WORKER 242 p2
- SOCIAL WORKER 242 q2

BARBERS/COSMETOLOGISTS 242 c3
COOKS-CHEFS/WAITERS-WAITRESSES 242 d3
FBI SPECIAL AGENTS/POLICE OFFICERS 242 e3
STATE POLICE OFFICERS/FIRE FIGHTERS 242 f3
HOSPITAL ATTENDANTS 242 g3
TAXI DRIVERS 242 s3
STEWARDESS 242 j4

Imperial Interview Tapes

COSMETOLOGIST 243 g
COUNSELOR 243 h
NURSE, PRACTICAL 243 s
POLICEMAN 243 x
SOCIAL WORKER 243 d2
STEWARDESS, AIRLINE 243 e2

VIII. Exploring Business Contact Occupations

If you enjoy face-to-face contact with people you may find one or more occupations in the Business Contact Group which interest you. Occupations which involve attempting to persuade other people to do a certain thing or to buy a certain product are included. By exploring the occupations in this Group, you should be able to determine if you like any of them.

The following questions about occupations in the Business Contact Group will be discussed:

1. **What occupations are in the Business Contact Group?**
2. **What is the nature of the work in Business Contact occupations?**
3. **How important are Business Contact occupations?**
4. **What education or training is desirable for success in Business Contact occupations?**
5. **Where is employment in Business Contact occupations found?**

1. What occupations are in the Business Contact Group?

The Business Contact Group does not contain many occupations. It is the smallest of ① the eight Groups. **Only those occupations involving personal persuasion are included.** Closely related occupations which involve routine work are in the Organization Group.

Examples of occupations in the Business Contact Group are listed below. They are shown according to level of classification. A brief description follows each title. Other references should be consulted for additional information about specific occupations.

Level 1

Promoter—top management or public relations person who undertakes the promotion of a company or product.
(OEK 77) (DOT 165.068)*

Level 2

Public relations worker—plans activities and publicity to promote favorable opinions of a product or business. This person may work with media such as magazines, newspapers, radio, and television in conducting promotional campaigns.
(OEK 77) (DOT 165.068)

Level 3

Insurance agent—contacts prospective customers in planning adequate protection for a customer's family, and sells policies or contracts which protect individuals and businesses against future losses and financial pressures. (OEK 118) (DOT 250.258)

Leaseman—persuades property owners to lease land for the construction of buildings or other facilities. A leaseman may also negotiate lease agreements and royalty contracts for oil exploration companies.
(OEK 195) (DOT 191.118)

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*Refer to OEK and DOT coding system on page T-2 of introduction to Teacher's Edition.

Salesman, automobile—sells new and/or used cars and trucks; contacts prospective buyers, appraises trade-in value of old car, and arranges for financing and delivery of new car.

(OEK 111 (DOT 280.358;

Salesman, manufacturer's—visits prospective customers to promote and sell a product or line of products.

(OEK 114) (DOT 289.358)

Salesman, real estate—represents property owners who want to sell and finds potential buyers for residential and commercial properties; may also rent and manage properties, make appraisals, and arrange for loans to finance purchases.

(OEK 169) (DOT 250.358)

Salesman, securities—buys or sells stocks, bonds, or shares in mutual funds; deals with individuals and large organizations and provides many kinds of related services in order to meet the customer's investment objective.

(OEK 165) (DOT 251.258)

Level 4

Auctioneer--sells various goods at an auction to the highest bidder; must be able to appraise the goods being sold and stimulate buyers to bid. Auctioneers may specialize in livestock, furniture, tobacco, automobiles, or other areas.

(DOT 294.258)

Buyer—purchases goods to be resold later for a profit.

(OEK 284) (DOT 162.158)

Demonstrator—shows how a product is used or prepared in order to create interest in a prospective buyer.

(OEK 343) (DOT 297.458)

Routeman—drives panel or light truck over assigned route, sells and delivers goods, or provides services; uses selling ability to increase sales to existing customers and to obtain new customers.

(OEK 303) (DOT 292.358)

Salesman, door-to-door—calls on prospective customers in their homes to show products, demonstrate their uses, or explain the preparation of products. Such a person arranges for the sale, delivery, and service of items.

(OEK 237) (DOT 289.358)

Level 5

Peddler—sells various merchandise on streets or from door-to-door. A basket, push-cart, or truck may be used to transport the items being sold. Peddlers sell such items as fruit, vegetables, flowers, or ice cream.

(OEK 237) (DOT 289.358)

Level 6

No occupations are listed under this level in the Business Contact Group.

2. *What is the nature of the work in Business Contact occupations?*

Most of the occupations in the Business Contact Group involve selling. It is the kind of selling which requires that a person be able to persuade another person to buy one product instead of a competitive product. Sales occupations as found in food stores and discount centers usually do not involve persuasion. In these kinds of stores, the goods are displayed and a customer either buys them or passes them up.

Salespersons in this Group must know their products. This means that many hours may be required to attend sales meetings and study the specifications of the products. They usually need to be aware of the advantages of their products over similar products of other manufacturers. New or improved products may be introduced. Each change in a product requires additional study.

② The work schedule is often irregular. Frequently the work day begins after persons in other occupations have finished their work for the day. A good example is the automobile salesman. Many automobile sales are made on weekends and at night.

Sales work demands persons who are patient and willing to use as much time as required to make a sale. However, a salesperson must not spend so much time with a customer that other sales are lost. In addition, a salesperson may antagonize a customer if he is too persistent.

Selling involves getting to know new people. Salespersons must be able to carry on conversations with customers. Considerable time may be required to plan the approach to use in attempting to sell a product. Much of this time will be used analyzing a customer's needs in terms of the product being sold. A salesperson must also be able to display and demonstrate the product in use.

Disappointment may result when sales are missed. This is especially likely to happen
③ if many hours have been spent in trying to make a sale. Many salespersons are paid on a commission basis; therefore, if they do not sell, they do not make any money.

Persons in certain sales occupations must travel extensively. They must frequently be away from home, perhaps for several days or weeks at a time. They must communicate by letter and telephone with customers to arrange appointments or supply information about the product being promoted.

In summary, the nature of the work of occupations in this Group involves studying and planning ways to sell a product or service. Many hours of study and analysis may be required. Long hours of patient conversation are frequently needed with a customer who may or may not buy the product being sold. And, finally, a salesperson must sell in order to be assured of an income.

A Salesman at Work. (Courtesy Eastman Kodak Company, Rochester, New York.)

3. How important are Business Contact occupations?

Workers in Business Contact occupations play an important role in the movement of goods and services. The growth and profitability of many businesses are related to the ability of salespersons to sell the product that is produced. To illustrate the importance of sales occupations, some salespersons may sell the work of 25 or more workers. These 25 people would not have jobs if no one sold their products.

It has been estimated that the following number of persons are employed in certain Business Contact occupations:

Public relations workers	52,000
Insurance agents	400,000
Automobile salesmen	115,000
Real estate salesmen, (full and part-time)	800,000
Securities salesmen	155,000

4. What education or training is desirable for success in Business Contact occupations?

Persons employed in Business Contact occupations need to be well-educated, especially if they are to work in the upper-level occupations. Most employers require beginning workers to have at least a high school diploma. A college degree may be required by some employers. Specialized training may be needed for some occupations, such as auctioneer.

In high school, classes in communications, business mathematics, general business, and economics will be helpful to persons interested in Business Contact occupations. Many high schools have classes in sales and marketing. Such classes are especially designed to provide training in a number of sales and sales-related occupations. Students enrolled in sales and marketing classes often work part-time in local businesses. The work they do is closely related to some of the occupations in this Group.

④ Students who wish to specialize in a specific area might wish to select classes related to that area. For example, a young person who is interested in becoming an agricultural machinery salesman would do well to enroll in an agribusiness class. To be a good agricultural equipment salesman, one must have a knowledge of agriculture. One must know about cotton production in order to successfully sell the machinery required to produce cotton. Some of the things he would need to know are when and how to plant, how to control weeds and insects, and how to defoliate, harvest, and market.

Persons going to college who are interested in Business Contact occupations may study in a number of different areas. Courses in business, advertising, psychology, merchandising, public relations, and related areas may have specific application to occupations in this Group.

Part-time work experience during high school is helpful. Such work may be done after school hours or in the summer. It may or may not be part of a school-sponsored class or activity. School-sponsored work experience may be provided through a cooperative arrangement between the school and local businesses.

Certain personal traits are needed for success in Business Contact occupations. Many of these can be developed through classes and individual efforts at self-improvement. The following is a list of desirable traits that persons in these occupations should have:

⑤
1. Ability to work independently and make own decisions.
2. Facility with language (written and oral).
3. Outgoing personality.

4. Desire to deal with people.
5. Ability to cope with frustrations and problems in dealing with people.
6. Ability to relate to and deal with people at all levels and to recognize and cope with many different personalities.
7. Ability to exercise persistence in persuasive-type activities.
8. Ability to calculate rates, interests, dividends, etc.
9. Knowledge of credit, marketing and economic conditions, sales, psychology, and advertising.
10. Ability to plan activities, and to keep records of sales, credit and payment, and billing.
11. Ability to energetically promote a product.

5. *Where is employment in Business Contact occupations found?*

Employment in Business Contact occupations is found wherever people are found and wherever goods are produced and sold. Most of the opportunities in these occupations are found in cities, especially in the large industrial cities.

Occupations in this Group are found in both small and large businesses. A number of promoters, auctioneers, and salespersons may be self-employed. However, more are employed by large companies and their affiliates than by small companies.

⑥ Specific Business Contact occupations are found only in isolated areas. Several examples are:

Tobacco auctioneer—Where tobacco is grown
Livestock auctioneer—Where livestock are raised
Oil leaseman—Where oil wells may be drilled

Other occupations in this Group are found in all parts of the country. Several examples are:

Automobile salesman
Real estate salesman
Insurance agent
Routeman
Door-to-door salesman

Goal:

Students should become familiar with Business Contact occupations and the interests and abilities which are important for success in these areas. They should also compare their own interests and abilities with those needed for success in various Business Contact occupations.

After the students have read Chapter VIII, have them discuss the following questions:

Review Questions:

1. What distinguishes the occupations in the Business Contact Group from those in the other Groups? p. 65
2. Why do some salesmen have to work on weekends and at night? p. 66
3. How are most salesmen paid? p. 67
4. Why is it necessary to take courses in an area in which a person wishes to be a salesman? (See the example of the agricultural machinery salesman.) p. 68
5. What personal traits are needed for Business Contact occupations? pp. 68-69
6. Why is the occupation of "tobacco auctioneer" found only in a few locations? p. 69

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Review various occupational information materials. Carefully note all occupations which are in the Business Contact Group. List occupations other than those given in this publication which you believe to be in the Business Contact Group.
   Refer to Appendix P and references at the end of this chapter.
2. Invite someone who is employed in a Business Contact occupation to visit your class and discuss the nature of his work.
   Refer to Appendix D.
3. Develop a display, bulletin board, or poster depicting occupations in the Business Contact Group. Clip pictures from magazines or newspapers which show workers in Business Contact occupations.
4. Review the want ads of a newspaper. Cut out those in the Business Contact Group and place them on a poster or bulletin board. Note where the jobs are found, the rate of pay, and requirements for entry.
   Refer to Appendix I.
5. Select one or more occupations from the Business Contact Group in which you are interested. Determine the following information for each occupation: (Your teacher may have prepared some forms for your use.)

OCCUPATIONAL STUDY OUTLINE

A. *Name of Occupation:*

B. *Duties of the Occupation:*

C. *Qualifications:* What are the personal requirements?

D. *Age:* How old must I be to enter the occupation?

E. *Sex:* Is this an occupation in which others of my sex are normally employed?

F. *Specific Physical and Health Requirements:* Am I the correct height to do the work? Are my eyesight and hearing adequate? Am I strong enough?

G. *Interest:* Do I possess this interest? If not, could I develop interest in this type of work?

H. *Abilities:* Do I possess the required abilities? If not, could I acquire the knowledge and skills necessary to do the job?

I. *Personality:* Do I possess the personal qualities necessary for doing this type of work? If not, could I develop these qualities?

J. *Values and Attitudes:* Does anything about this job violate values and attitudes I have about people and work? If so, could I adjust to situations that required that I change my values and attitudes?

K. *Preparation:* What subjects do I need to study? What special training will I need? How long will it take to receive this training? How much will it cost? Can I get this training within the state? Is work experience required for entry into this occupation? What is the method of entry into this occupation?

L. *Working Conditions on the Job:* Is it hazardous work? Is it noisy or dirty? Will I be working in shifts? Will I work indoors or outdoors? Is it hard work? Does the work require being away from home for long periods of time?

M. *Rewards from Work:* How much is the beginning pay? Is there chance for advancement? Will this work experience help me get a better job? Would I be happy doing this type of work?

N. *Employment Outlook:* How many are employed in the occupation at present? Are there employment opportunities in my community or state for this type of work?

O. *Special Requirements (such as certification, licenses, and examinations):*

6. Review the yellow pages of the local telephone directory. Prepare a list of all businesses which might have Business Contact occupations.

7. Compile a list of all the persons you know who work in Business Contact occupations. Also indicate their occupation and employer.

8. List the attempts you have made to persuade someone to do something. Indicate the times when you were successful.

9. View one or more films that show persons at work in Business Contact occupations. Some suggested films are:
   Ben Franklin Sells Today
   Salesmanship Career Opportunities
   Selling America
   (Available from Film Library, Curriculum Coordinating Unit, P.O. Drawer DX, State College, MS 39762.)

10. Invite the sales and marketing teacher in your school to visit class. Have him discuss Business Contact occupations. It would also be well to have him discuss how enrolling in a sales and marketing class can help provide the training needed for entering various occupations. Refer to Appendix D.

11. Form a panel of six students to discuss the importance of Business Contact occupations in the community, the state, and the nation. Each member of the panel should study these occupations before the panel performs.

    It is suggested that the teacher have the class divide into six groups. Each group may do research on the above mentioned subject and choose one group member to represent the group on the panel.

12. Visit the sales and marketing department in your school. Have the teacher explain the facilities found there. (It is suggested that arrangements for the visit be made well ahead of the visit.)

13. Investigate DECA. Determine what it is, what it does, and how it functions.

    The Distributive Education Clubs of America, known as DECA, is a national organization comprised of students enrolled in distributive education programs. It was created to encourage members to continue study in marketing and distribution. DECA presently has a membership of over 100,000 from 3,500 school chapters located in all 50 states.

    More information about DECA may be obtained by writing:

    State Supervisor
    Distributive Education
    P. O. Box 771
    Jackson, Mississippi 39205

14. As class members name the local businesses and firms that employ people in Business Contact occupations, make a list of them on the chalkboard. Ask if any members of the class know people employed at these places.

15. Role-play one or more of the following:
    a. An automobile salesman selling a new car.
    b. An automobile salesman selling a used car.
    c. A real estate salesman selling a house and lot in a city.
    d. An agricultural equipment salesman selling a two-row cotton picker.
    e. An insurance salesman selling life insurance.
    f. A door-to-door salesman selling magazine subscriptions.
    g. A peddler selling peanuts.

    Ask students if they enjoyed role-playing salesmen and if they feel that they could sell a real product. Have students determine who did the best selling job.

16. Investigate a Business Contact occupation. Report the following findings to the class:
    a. Nature of the work.
    b. Education and training required.
    c. Salary.
    d. Location of employment opportunities.
    e. Future of the occupation.

Additional Occupations:

Additional occupations included in the OEK which may be classified in the Business Contact Group are listed below:

Automatic Vending Routemen (OEK 122) (DOT 292.358)

Literary Agents (OEK 277) (DOT 191.118)

Radio-TV Time Salesmen (OEK 347) (DOT 253.358)

Additional Activities:

1. Have students discuss the following situation:

WHAT WOULD YOU DO?

Ralph works for a used car lot. He is a good salesman and makes an excellent salary plus commissions.

Ralph does not service the used cars. When the cars are put on the lot, they have been checked by the service department, and are considered to be in good condition. Of course, many used cars may have hidden defects.

Ralph is careful to emphasize a car's good points when making a sale, and he does not mention problem areas.

Ralph's girl friend feels that Ralph is being dishonest when he notices something about a car which may soon cause trouble, and does not mention the problem to the customer. Ralph says that to do this would be "crazy" and that he would never make a sale.

What would you do?

2. Students may use this form to relate the importance of school subjects to various jobs in the Business Contact category. They should complete the chart with jobs which interest them most.

SCHOOL SUBJECTS AND JOBS*

Fill in Job Blanks	Speech	English	Writing	Math	Science	Social Studies	Art	Music	Shop & Home Ec.	Other	Other

Make code entries on chart.

CODES:	E - Essential	Subject matter is absolutely necessary for success on the job or for completion of educational requirements for the job.
	I - Important	The subject matter is important to success on the job, although it may not always be an absolute requirement.
	U - Useful	The subject is very useful for the job and is usually directly related.
	S - Somewhat Useful	The subject is somewhat useful for the job.

***Career Exploration, A Guide for Teachers.** (Oklahoma State Department of Vocational and Technical Education), p. 37. Printed with permission.

Suggested Review Survey:

Circle the best answer

1. In which of the following Business Contact occupations are the largest number of persons employed?
   a. Public relations workers
   b. Insurance agents
   c. Automobile salesmen
   d. Real estate salesmen
2. Which of the following jobs would probably require the greatest persuasive ability?
   a. Department store salesman
   b. Grocery store cashier
   c. Automobile salesman
   d. Department store buyer
3. Most Business Contact employers require their employees to have at least:
   a. An eighth grade education
   b. A high school education
   c. A college education
   d. None of the above
4. Which of the following Business Contact occupations are found in all parts of the country?
   a. Door-to-door salesman
   b. Livestock auctioneer
   c. Oil leaseman
   d. All of the above
5. Which of the following courses may be helpful to persons considering entry into a Business Contact occupation?
   a. Business
   b. Psychology
   c. Public Relations
   d. All of the above

T F 6. Only those occupations involving personal persuasion are included in business contact occupations.

T F 7. Automobile salesmen work only during the day from Monday through Friday.

T F 8. Most of the occupations in the Business Contact Group involve selling.

T F 9. All salesmen are paid on a commission basis.

T F 10. Successful people in Business Contact occupations usually enjoy face-to-face contact with people.

Answers to suggested review survey: 1, d; 2, c; 3, b; 4, a; 5, d; 6, T; 7, F; 8, T; 9, F; 10, T.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Free Printed Materials:

Insurance

CAREERS IN PROPERTY LIABILITY INSURANCE 100 a

IT'S UP TO YOU — A GUIDE TO A CAREER IN LIFE AND HEALTH INSURANCE 100 b

LIFE CAREER, A 100 c

SHOULD YOU SEEK A CAREER IN LIFE INSURANCE? 136 b3

WHAT WILL YOU BE DOING SEVEN YEARS FROM NOW? 100 d

Public Relations Worker

OCCUPATIONAL GUIDE TO PUBLIC RELATIONS, AN 144 a

SHOULD YOU GO INTO PUBLIC RELATIONS? 136 w2

WHY NOT BE A PUBLIC RELATIONS WORKER? 169 i

Salesman

GENERAL SALESMAN (Occupational Guide) 112 r

GOLDEN TOUCH, THE 145 a

OPPORTUNITIES IN SELLING 80 a

SALESMAN, THE 148 a

SALES OCCUPATIONS (Occupational Outlook Brief) 167 i

SHOULD YOU BE A SALESMAN? 136 d2

YOUR FARM BACKGROUND AND AGRIBUSINESS SELLING 148 b

Free Films:

Salesman

DIALOGUE WITH A YOUNG MAN (3694) 201 f

Supplementary Books and Pamphlets:

Career Series

OPPORTUNITIES IN LIFE INSURANCE SELLING 240 s

OPPORTUNITIES IN PUBLIC RELATIONS 240 h2

OPPORTUNITIES IN THE SECURITIES BUSINESS 240 k2

OPPORTUNITIES IN SELLING 240 l2

Careers in Depth Series
- YOUR FUTURE IN DIRECT SELLING 236 x
- YOUR FUTURE IN INSURANCE 236 n2
- YOUR FUTURE IN MARKETING 236 w2
- YOUR FUTURE IN PUBLIC RELATIONS 236 v3
- YOUR FUTURE IN REAL ESTATE 236 y3

CONCISE HANDBOOK OF OCCUPATIONS 226 a
COWLES GUIDE TO CAREERS AND PROFESSIONS 219 a
ENCYCLOPEDIA OF CAREERS AND VOCATIONAL GUIDANCE 226 b
HANDBOOK OF JOB FACTS 237 b
OCCUPATIONAL LITERATURE, AN ANNOTATED BIBLIOGRAPHY 225 a
OCCUPATIONS AND CAREERS 230 b
ON THE JOB 226 c

Tapes:

American Occupations Series (Education Sensory Programming)
- PUBLIC RELATIONS WORKERS 242 d
- AUTO SALESMAN 242 y2
- INSURANCE AGENT-BROKER/MANUFACTURER'S SALESMAN 242 z2
- REAL ESTATE SALESMEN-BROKER 242 a3
- SECURITIES SALESMAN 242 b3
- ROUTEMEN 242 r3

Imperial Interview Tapes
- INSURANCE BROKER 243 l
- PUBLIC RELATIONS 243 z
- REAL ESTATE BROKER 243 a2
- LAUNDRY ROUTEMAN 243 v2

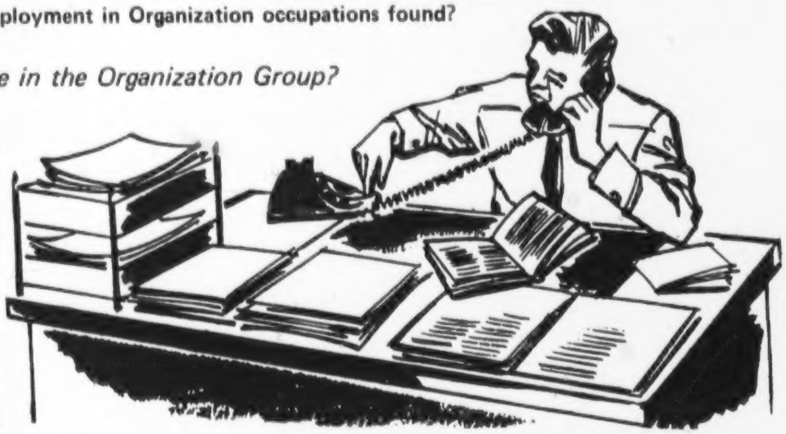
IX. Exploring Organization Occupations

Do you like occupations in which the work varies very little from day to day? You are probably unable to answer this question accurately. A study of occupations in the Organization Group will help you with your answer. Such occupations are concerned with the functioning of businesses and government agencies. A number of white collar occupations are included.

The following questions about Organization occupations will be answered:

1. **What occupations are in the Organization Group?**
2. **What is the nature of the work in Organization occupations?**
3. **How important are Organization occupations?**
4. **What education or training is desirable for success in Organization occupations?**
5. **Where is employment in Organization occupations found?**

1. What occupations are in the Organization Group?



The Organization Group contains a large number of occupations. Most of them are executive and office-type jobs. Many of the clerical occupations in government, industry, and business are included. High officials of the government are in the upper levels. The most notable government officials in Level One are the President of the United States and cabinet members who work with him. Industrial tycoons who are with the large industries are also in this level.

Many of the occupations in the Organization Group are listed below. A brief description of each is also given. Additional information about specific occupations can be obtained from various references about occupations.

Level 1

International banker—is primarily concerned with the exchange of foreign money and the maintenance of money deposits in foreign banks.
(OEK 46) (DOT 186.118)*

Level 2

Actuary—calculates insurance and annual payments on insurance contracts; sets aside money to meet debts; and allocates shares of surplus funds to policyholders who are participating in an insurance company.
(OEK 251) (DOT 020.188)

Certified public accountant—reviews financial records and reports and gives opinions as to their reliability; advises clients on tax matters and other financial and accounting problems; and meets legal requirements of public practice.
(OEK 387) (DOT 160.188)

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*Refer to OEK and DOT coding system on page T-2 of introduction to Teacher's Edition.

Controller, bank—authorizes and controls the use of funds kept by the treasurer; supervises the maintenance of accounts and records; analyzes these records; and often formulates policies that concern financial problems.
(OEK 46) (DOT 186.118)

Economist—compiles, processes, and interprets economic and statistical data; is concerned with the solution of economic problems arising from the production and distribution of goods and services (and studies conditions affecting production, distribution, and consumption of goods and services).
(OEK 79) (DOT 050.088)

Economist, government industrial—studies and analyzes economic factors involved in production, distribution, and use of goods or services to insure maximum use of assets and to develop desirable markets; interprets effects of government regulations and restrictions on industrial policies.
(OEK 79) (DOT 050.088)

Geographer, economic—analyzes the geographic distribution of economic activities, including manufacturing, mining, farming, trade, and communication.
(OEK 185) (DOT 050.088)

Hospital administrator—supervises and coordinates the operation of a hospital.
(OEK 235) (DOT 187.118)

Manager, advertising—plans advertising policies, establishes budgets, and determines what type of advertising methods can be most effectively used by a business.
(OEK 63) (DOT 164.118)

Manager, hotel—has responsibility for operating a hotel profitably and providing the best possible services for guests; is in charge of personnel, the financial management of a hotel, and advertising.
(OEK 313) (DOT 187.118)

Marketing researcher—collects, analyzes, and interprets data to determine potential sales of a product or service.
(OEK 210) (DOT 050.088)

Personnel relations administrator—organizes, directs, and coordinates industrial relations activities of an organization, such as assembling and analyzing data concerning problems of absenteeism, labor turnover, and employment of physically handicapped; conducts surveys on living costs and wage rates; and studies current labor laws and regulations, etc.
(OEK 134) (DOT 165.068)

Production manager, advertising—coordinates activities of design, illustration, photography, paste-up, and typography personnel to prepare advertisements for publication; and supervises workers engaged in pasting-up advertising layouts in an art department or studio.
(OEK 63) (DOT 164.118)

Purchasing agent—buys raw materials, machinery, supplies, and services required by businesses or companies (considers cost, quality, quantity, and time needed).
(OEK 97) (DOT 162.158)

Level 3

Accountant—compiles, analyzes, and prepares such business and financial records as profit and loss statements, balance sheets, cost studies, and tax reports.
(OEK 61) (DOT 160.188)

Automotive parts counterman—purchases, stores, and issues spare parts for automotive equipment from behind a counter in a repair shop or parts store.
(OEK 239) (DOT 280.458)

Cashier, bank—directs bank's monetary programs, transactions, and security measures in accordance with banking principles and legislation; receives funds from customers and employees; disburses funds; and records monetary transactions incidental to conduct of business.
(OEK 11) (DOT 186.168)

Claims adjuster, insurance—investigates claims for loss or damages filed in conjunction with insurance policy and tries to effect settlement out of court.
(OEK 238) (DOT 241.168)

Employment interviewer—interviews job applicants in an employment agency and refers them to prospective employers for consideration.
(OEK 325) (DOT 166.268)

Housekeeper, hotel—supervises work activities of cleaning personnel to insure clean, orderly, and attractive rooms in hotels.
(OEK 13) (DOT 187.118)

Programmer—works in the field of electronic data processing; writes and codes the instructions which control the work of a computer.
(OEK 281) (DOT 020.188)

Secretary, private—schedules appointments, gives information to callers, takes dictation, and otherwise relieves officials of clerical work and minor administrative and business detail.
(OEK 19) (DOT 201.368)

Secretary, social—attends to social, business, and personal affairs of employer.
(OEK 19) (DOT 201.268)

Stenographer, court—records proceedings in law courts; specializes in shorthand reporting, either manual or machine.
(OEK 93) (DOT 202.388)

Stenographer, technical—takes dictation, in shorthand, of correspondence, reports, and other matters, and transcribes dictated material, using a typewriter; may take dictation in medical, legal, or scientific terms.
(OEK 19) (DOT 202.388)

Teller (all kinds)—receives and pays out money and keeps records of money and negotiable instruments involved in various transactions.
(OEK 11, 12) (DOT 212.368)

Traffic agent, airlines—sells flight tickets, reserves seats and cargo space, and takes care of the ground handling of airplanes.
(OEK 298) (DOT 919.368)

Traffic manager, industrial—arranges for transportation of raw materials and finished products to and from industrial and commercial firms; determines the kind and amount of goods to be shipped, the time when delivery is needed; chooses the type of transportation, the route, and finally the particular carrier, or transportation company.
(OEK 99) (DOT 184.168)

Level 4

Adding machine operator—uses machines which perform the calculations of addition, subtraction, and sometimes multiplication; transcribes the machine calculations onto business report forms or other types of records.
(OEK 16) (DOT 216.488)

Automotive service advisor (manager)—confers with the customer to determine his service needs and arranges for a mechanic to do the work; waits on customers who bring their automobiles in for maintenance and repairs.
(OEK 85) (DOT 620.281)

Billing machine operator—prepares statements, bills, and invoices to be sent to customer; itemizes amount customer owes; and uses billing machines with or without computing devices..
(OEK 16) (DOT 214.488)

Bookkeeper, general—records and summarizes the financial transactions of a business, industry, or institutional agency.
(OEK 16) (DOT 210.388)

Bookkeeping machine operator—operates simple bookkeeping machines which record monetary transactions, such as accounts payable, or, in banking operations, deposits; sorts documents to be posted; and prepares periodic trial balances.
(OEK 16) (DOT 215.388)

Calculating machine operator—uses mechanical or electrically operated computers to obtain various kinds of calculations, such as division, multiplication, addition, subtraction, square root, and statistical computations.
(OEK 16) (DOT 216.488)

Clerk, bank exchange—services foreign deposit accounts and determines charges for cashing or handling checks drawn against such accounts.
(OEK 11) (DOT 219.388)

Clerk, bank interest—maintains records relating to interest-bearing items which are due to or from the bank; collects interest on these contracts.
(OEK 11) (DOT 219.388)

Clerk, bank mortgage—types legal papers affecting title to real estate upon which money has been loaned, and maintains records relating to taxes and insurance on such properties.
(OEK 11) (DOT 209.388)

Clerk, bank transit—sorts bank items such as checks and drafts on other banks, lists and totals the amounts involved, and prepares the documents so that they can be mailed for collection.
(OEK 11) (DOT 217.388)

Clerk, bank trust investment—posts the daily investment transactions of bank customers.
(OEK 11) (DOT 219.588)

Clerk, billing—receives the payments made by customers for goods and services; prepares invoices and bills of lading.
(OEK 16) (DOT 219.388)

Clerk, disbursement—verifies accuracy of loan applications and prepares a file for each loan transaction.
(OEK 11) (DOT 186.388)

Clerk supervisor, shipping—supervises and coordinates activities of workers engaged in packing and shipping merchandise or material and keeps records of shipments.
(OEK 354) (DOT 222.138)

Conductor, railroad passenger—supervises and coordinates activities of a train crew engaged in transporting passengers on passenger trains.
(OEK 128) (DOT 198.168)

Console operator—checks and controls electronic digital computer to process business, scientific, engineering, or other data according to operating instructions; operates the computer; examines the programmer's instruction sheet for the run and ascertains the procedure to be followed.
(OEK 322) (DOT 213.382)

Front office clerk, hotel—accommodates hotel patrons by performing any combination of the following duties: registering and assigning rooms to guests; issuing room keys and instructions to bellman; date-stamping, sorting, and racking incoming mail and messages; transmitting and receiving messages, checking out guests, and receiving payments for services provided.
(OEK 13) (DOT 242.368)

High-speed printer operator—operates high-speed printing machine to convert scientific, engineering, or business information previously recorded on reels of tape into printed records.
(OEK 90) (DOT 213.382)

Proof machine operator, bank—sorts, records, and proofs records of bank transactions, such as checks, deposit slips, and withdrawal slips, using proof machine.
(OEK 11) (DOT 217.388)

Receptionist—receives clients or customers coming into an establishment, determines their wants, and directs them accordingly.
(OEK 278) (DOT 237.368)

Salesperson, retail—displays, describes, and sells merchandise such as hardware, furniture, and clothing.
(OEK 239) (DOT 260.458 to 289.458)

Station agent, railroad—supervises and coordinates activities of workers engaged in selling tickets, checking baggage, and maintaining building and grounds of railroad station.
(OEK 128) (DOT 211.468)

Stenographer, general—takes fairly routine dictation and performs routine office tasks; and transcribes dictated material, using typewriter.
(OEK 19) (DOT 202.388)

Tape librarian—classifies catalogs, stores tapes, and makes them available when they are needed again.
(OEK 358) (DOT 223.387)

Level 5

Cashier, box office—sells tickets for admission to places of entertainment, such as skating rinks, baseball parks, stadiums, and amusement parks.
(OEK 12) (DOT 211.468)

Cashier, checkout—itemizes and totals customer's purchases in self-service grocery or department store, using cash register; collects money from customer and makes change; mav stock shelves, weigh items, bag merchandise, and issue trading stamps.
(OEK 12) (DOT 211.368)

Clerk, accounting—performs a variety of routine calculating, posting, and typing duties related to accounting.
(OEK 16) (DOT 219.488)

Clerk, insurance policy change—compiles data on changes in insurance policies and enters changes in beneficiaries and coverage on policies, in accordance with the instructions given by agents.
(OEK 19) (DOT 210.588)

Clerk, mortgage—types the legal papers necessary for real estate titles, records the transactions, and maintains card file of records.
(OEK 11) (DOT 209.388)

Clerk, shipping—checks to see that an order has been filled correctly before it is shipped, prepares bills of lading and any other shipping forms needed; maintains records of the weight and cost of each shipment; checks each shipment for correct address; and keeps accurate records on each shipment.
(OEK 352) (DOT 222.687)

Clerk, typist—performs general clerical work requiring use of typewriter in majority of duties; combines typing with filing, sorting mail, answering the telephone, and other general office work.
(OEK 252) (DOT 209.388)

Clerk, waybill—types shipping tickets and other specialized forms in a railroad office and performs other types of general office work.
(OEK 352) (DOT 209.588)

Duplicating machine operator—reproduces handwritten or typewritten matter, using a duplicating machine; may keep a record of the number of copies made.
(OEK 17) (DOT 207.855)

Embossing machine operator—operates machine to emboss names and addresses on metallic and nonmetallic plates for use in duplicating and addressing machines.
(OEK 19) (DOT 208.782)

Insurance checker—checks the information entered on policies by other clerical workers to be certain that the work is accurate.
(OEK 19) (DOT 249.368)

Key punch operator—uses machines, similar in action to typewriters, to punch holes in a card in such a position that each hole can be identified as representing a specific item of information.
(OEK 276) (DOT 213.582)

Mail carrier—sorts mail and delivers and collects mail on assigned routes.
(OEK 263) (DOT 233.388)

Mail machine operator, preparing—runs automatic equipment which handles outgoing mail; feeds the mail into machines that will open envelopes, fold and insert mail enclosures into the envelopes, and seal, address, and stamp them.
(OEK 322) (DOT 234.885)

PBX operator—works at switch boards in business establishments operating a cord or cordless switch board; assists people in placing calls and helps locate desired parties; keeps record of calls completed, charges incurred, and the department to be charged.
(OEK 356) (DOT 235.862)

Policy writer, insurance—types from approved insurance applications onto policy forms, the name and address of the policyholder, amount of the policy, premium rate, and other information.
(OEK 252) (DOT 203.588)

Postal clerk—sorts incoming and outgoing mail in a post office and serves the public at the windows in post office lobbies selling stamps and money orders and providing other services.
(OEK 18) (DOT 232.368)

Sorter, bank—separates bank documents, checks, deposit slips, and other bank items into different groups and tabulates them so that the entries are made to the proper account.
(OEK 11) (DOT 219.388)

Tabulating machine operator—operates a machine that processes information from tabulating cards into printed records; routes processed cards to the next work station.
(OEK 322) (DOT 213.782)

Tape perforator operator—using a special typewriter, types letters, reports, and other material from master copy to perforated tape; pastes gummed paper over holes to correct errors; may file perforated rolls; and may operate automatic typewriter that reproduces material from perforated tape or paper.
(OEK 252) (DOT 203.588)

Telegrapher, railroad—transmits and receives messages, train orders, and car reports in Morse code, using manual or semi-automatic key equipment.
(OEK 261) (DOT 236.588)

Telephone operator—aids persons using telephone services by placing calls and making telephone connections.
(OEK 20) (DOT 235.862)

Ticket agent, railroad—collects fares from passengers in a train station as they pass through the waiting room to the platform or after they board the train.
(OEK 128) (DOT 919.368)

Transcribing machine operator—transcribes letters, reports, or other recorded data, using a transcribing (voice reproducing) machine and a typewriter.
(OEK 252) (DOT 208.588)

Typist, data—converts alphabetic, numeric and symbolic data into coded form on punched cards or tapes.
(OEK 252) (DOT 203.588)

Level 6

Mail machine operator, handling—tends machine that automatically seals envelopes and imprints postmark on envelopes or tape to be pasted on packages.
(OEK 322) (DOT 234.885)

Sorting machine operator—tends machine that automatically sorts perforated tabulating cards into specified groups.
(OEK 322) (DOT 213.885)

2. *What is the nature of the work in Organization occupations?*

② Most of the occupations in this category can be called "desk jobs." The work can be characterized as "paper work." An accountant works largely with the financial records of an organization. While a secretary may do many types of jobs for her employer, in each case the work is mainly done behind a desk and involves written materials—paper work.

A few of the occupations in this category require considerable contact with people. Some require movement both indoors and outdoors. Primarily, however, these occupations require a person to stay behind a desk and work with written materials and various types of machines such as adding machines, calculators, and data processing equipment.

Earnings vary greatly from one occupation in this category to another. In these occupations, as well as in occupations found in the other categories, earnings may depend on the amount of education one has, the size and type of place of employment, special training and examinations taken, degree of responsibility one must assume, and numerous other factors.

Fringe benefits for all of these occupations are very similar. These benefits may include: vacations with pay, paid holidays, group life insurance, hospitalization and surgical benefits, and retirement plans. Some workers receive fringe benefits that are associated with certain occupations. Banking occupations offer profit-sharing, bonus plans, or preferred banking services; and hotel housekeepers may be provided with laundry and free uniforms. Fringe benefits in any occupation may vary from one business to the next.

People at Work in Office Occupations. (Courtesy Mississippi Power and Light Company, Jackson, Mississippi.)

3. *How important are Organization occupations?*

No one group of occupations is more important than another group. Every worker in any business or government organization has a job that must be done. Some of the workers in any establishment actually do the work: in a store the sales people do the selling, in a school the teachers do the teaching. Other people must see that the work gets done. The salesman in a store could not sell if someone did not produce the products to sell and provide a place in which to sell them. Teachers could not teach as well if the school were not organized and equipped.

Every business, industry, and government agency has workers in Organization occupations. These are the workers who keep records, type letters, operate office machines, and handle other details necessary for efficient operation. It is obvious that millions of workers in the United States are in Organization occupations.

It has been estimated that the following number of persons are employed in the occupations listed below. These represent only a few of the occupations in this Group:

Actuary	3,100
Certified public accountants	100,000
Economist	20,000
Secretary	2,400,000
Stenographer	11,000
Cashier	700,000
Bookkeeper	1,200,000
Typist	700,000
Receptionist	225,000

4. *What education or training is desirable for success in Organization occupations?*

The general educational requirements for entrance into an occupation in Level One is a minimum of a bachelor's degree, usually in a subject area closely related to the occupation. However, education alone does not place one in this level. Several years of work experience and diligent preparation are necessary to reach it.

A bachelor's degree in a particular subject area is usually required for entry into the occupations in Level Two. Some of the occupations, such as those of an actuary and a certified public accountant, require special examinations. An actuary must pass a series of examinations to gain full professional status. Five to ten years may be required to complete the examinations. Accountants must pass the CPA examination provided by the American Institute of Public Accountants and be licensed or registered by the state board of accountancy before they can practice as "certified public accountants." Often special training may be needed to enter or advance in Level Two occupations. For example, one wishing to be a bank controller may be required to participate in a well-organized officer-training program requiring from six months to one year to complete.

Economists, who are found in this Group, must have a thorough grounding in economic theory, economic history, and methods of economic analysis. Those who wish to advance to positions that require more responsibility should plan to do graduate work.

Occupations in Level Three usually require a high school education for entrance. Some employers of persons in such occupations as employment interviewer and programmer prefer employees who have a college degree. Additional training in some occupations (programmer, accountant, etc.) is important for advancing to levels of greater responsibility.

An Office Worker in a Computer Room. (Courtesy Schering Corporation, Bloomfield, New Jersey.)

In Level Four a high school education is required for most of the occupations listed. It is preferable for persons in many of these occupations to have more education, especially vocational education.

Certain high school vocational courses relating to the specific occupations are important in entering Level Five. Typewriting is a "must" for one who wishes to be a typist or a clerk typist. A course in business machines would contribute to success as a duplicating machine operator, transcribing machine operator, or a tabulating machine operator. Special training is required for some other occupations in this Group, such as a checkout cashier.

Level Six occupations do not require a high school education; however, persons who have this education may be preferred over those who do not. On-the-job training would possibly be the only training a mail machine operator and a sorting machine operator would need.

5. Where is employment in Organization occupations found?

Any business employing more than just a few people must have someone who is responsible for organizing and directing the work of others. Most businesses, industries, schools, and city and county government agencies have occupations in this Group.

A review of the want ads in a newspaper will reveal a number of opportunities in Organization occupations. Most of the opportunities are found near cities with business and ③ government offices. For example, many opportunities are available in government jobs in the city in which a state capitol is located. Numerous state offices are located in and around the capitol. The same is true of cities which have offices of the federal government.

Goal:

Students should become familiar with Organization occupations and the interests and abilities which are important for success in these areas. They should also compare their own interests and abilities with those needed for success in various Organization occupations.

After the students have read Chapter IX, have them discuss the following questions:

Review Questions:

1. What is a "white collar" job? List examples.

   "White collar" jobs usually involve salaried employees in office-type or clerical occupations which call for a well-groomed appearance.

2. What is meant by "desk jobs"? "paper work"? p. 78
3. Why are many opportunities in Organization occupations found near state capitols? p. 80

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Review various occupational information materials. Carefully note all occupations which are in the Organization Group. List occupations other than those given in this publication which you believe to be in the Organization Group.
   Refer to Appendix P and references listed at the end of this chapter.
2. Select one or more occupations in the Organization Group in which you are interested. Determine the following information for each occupation: (Your teacher may have prepared some forms for your use.)

OCCUPATIONAL STUDY OUTLINE

A. *Name of Occupation:*

B. *Duties of the Occupation:*

C. *Qualifications:* What are the personal requirements?

D. *Age:* How old must I be to enter the occupation?

E. *Sex:* Is this an occupation in which others of my sex are normally employed?

F. *Specific Physical and Health Requirements:* Am I the correct height to do the work? Are my eyesight and hearing adequate? Am I strong enough?

G. *Interest:* Do I possess this interest? If not, could I develop interest in this type of work?

H. *Abilities:* Do I possess the required abilities? If not, could I acquire the knowledge and skills necessary to do the job?

I. *Personality:* Do I possess the personal qualities necessary for doing this type of work? If not, could I develop these qualities?

J. *Values and Attitudes:* Does anything about this job violate values and attitudes I have about people and work? If so, could I adjust to situations that required that I change my values and attitudes?

K. *Preparation:* What subjects do I need to study? What special training will I need? How long will it take to receive this training? How much will it cost? Can I get this training within the state? Is work experience required for entry into this occupation? What is the method of entry into this occupation?

L. *Working Conditions on the Job:* Is it hazardous work? Is it noisy or dirty? Will I be working in shifts? Will I work indoors or outdoors? Is it hard work? Does the work require being away from home for long periods of time?

M. *Rewards from Work:* How much is the beginning pay? Is there chance for advancement? Will this work experience help me get a better job? Would I be happy doing this type of work?

N. *Employment Outlook:* How many are employed in the occupation at present? Are there employment opportunities in my community or state for this type of work?

O. *Special Requirements (such as certification, licenses, and examinations):*

3. Invite someone who is employed in an Organization occupation to visit your class and discuss the nature of his work.

   Refer to Appendix D.

4. Develop a display, bulletin board, or poster depicting occupations in the Organization Group. Clip pictures from magazines or newspapers which show workers in Organization occupations.

5. Review the want ads of a newspaper. Cut out and place those in the Organization Group on a poster or bulletin board. Note where the jobs are found, the rate of pay, and requirements for entry.

   Refer to Appendix I.

6. Review the yellow pages of the local telephone directory. Compile a list of all businesses which might have Organization occupations.

7. Prepare a list of all the persons you know who work in Organization occupations. Also indicate their occupations and employers.

8. Invite the business teacher in your school to visit class. Have him discuss Organization occupations that are related to business subjects. It would also be well to have him discuss how enrolling in a business education class can help provide the training needed for entering various occupations.

   Refer to Appendix D.

9. Visit the business education department in your school. Have the teacher explain the facilities found there. (It is suggested that arrangements be made well ahead of the visit.)

10. Investigate FBLA. Determine what it is, what it does, and how it functions.

    The Future Business Leaders of America, known as FBLA, is a national organization of students who plan to pursue jobs in the business world.

    More information about FBLA may be obtained by writing:

    State Supervisor
    Business and Office Education
    P. O. Box 771
    Jackson, Mississippi 39205

11. As the class members name the local businesses and firms that employ people in Organization occupations, list them on the chalkboard. Ask if any members of the class know people employed at these places.

12. The activities listed below are representative of the following banking occupations:

Cashier
Clerk, country collection
Clerk, exchange
Clerk, interest
Clerk, mortgage
Clerk, reconcilement teller
Clerk, transit
Clerk, trust investment
Controller
Loan officer
Proof machine operator
Sorter

a. Arrange for an interview with a person in the specific banking occupation in which you have an interest. Prior to the interview, prepare a list of questions that you would like to have answered during the interview such as, his duties, and how he became interested in his occupation. Read any information you can find on interviewing techniques, proper dress for an interview, etc. Collect any forms from him that relate to his specific occupation. Practice filling out the forms you acquired.

Refer to Appendix F.

b. Have the occupational orientation teacher arrange for you to tour a bank. Write a report about the tour. Be prepared to give an oral report to the class.

Refer to Appendix E.

13. The activities listed below are representative of the following business machines occupations:

Adding machine operator
Billing machine operator
Bookkeeping machine operator
Calculating machine operator
Cardiotape converter operator
Clerk, accounting
Clerk, shipping
Clerk, typist
Clerk, waybill
Console operator
Embossing machine operator
High speed printer operator
Keypunch operator
Programmer
Sorting machine operator
Stenographer, court
Stenographer, general
Stenographer, technical
Tabulating machine operator
Tape perforator operator
Transcribing machine operator
Typist, data

a. Arrange for an interview with a person in the specific occupation in which you have an interest. Prior to the interview, prepare a list of questions that you would like to have answered during the interview, such as his duties, and how he became interested in his occupation. Read any information you can find on interviewing techniques, proper dress for an interview, etc.

Refer to Appendix F.

b. Observe the business teacher giving demonstrations on the use of various types of business machines—typewriter, adding machine, duplicating machine, etc. If possible, after observing the demonstrations, practice using these machines.

c. Learn the parts and some of the keys of the typewriter by going through the first ten lessons in a typewriting textbook. Have the occupational orientation teacher arrange to borrow a typewriter for your use, or arrange for you to participate in a typewriting class during the occupational orientation class period or a free period.

14. The activities listed below relate to the occupation of economist.

a. Arrange for an interview with a person in the specific occupation in which you have an interest. Before the interview, compile a list of questions you would like to have answered.

Refer to Appendix F.

b. Have the occupational teacher help you arrange an interview with the local Chamber of Commerce director. Acquire information from him on trends in employment, sales tax collections, and business growth in your local community. Study your findings and write a report to turn in to the occupational orientation teacher. Prepare a chart illustrating the information you acquired. Be prepared to give an oral report to your class.

15. Activities representative of certain managerial occupations are listed below. Some of the occupations involved are:

    Clerk supervisor, shipping
    Hospital administrator
    Housekeeper, hotel
    Manager, advertising
    Manager, hotel
    Personnel relations administrator
    Production manager, advertising
    Traffic manager, industrial

    a. Arrange for an interview with a person in the specific occupation in which you have an interest.

       Refer to Appendix F.

    b. Make a list of characteristics that you would want employees under you to possess. For example, initiative, honesty, loyalty, etc. Discuss this list with the occupational orientation teacher and ask for his advice as to other characteristics.

    c. Prepare a plan of housekeeping for your classroom and/or laboratory which will involve all class members. Post the different assignments on the bulletin board. Carry through the plan under your direction.

16. The following activities relate to mailing occupations in an office and in the post office.

    a. Arrange for an interview with a person in the specific occupation in which you have an interest. Plan your questions ~~before~~ the interview.

       Refer to Appendix F.

    b. Have the occupational orientation teacher arrange to borrow the school's postal scale. After learning how to read the scale, practice weighing several pieces of mail and determine how much postage each requires.

    c. With the occupational orientation teacher's assistance, arrange for a tour of the local post office. Acquire a list of postal rates for different classes of mail. Become familiar with these rates. Write a report about the tour.

       Refer to Appendix E.

    d. Provide each of your classmates with three 3-inch x 5-inch cards. Have them address the cards as if they were actually going to mail them. Make sure they remember to add the zip code. Take up the cards and sort them in ascending order according to the zip code numbers.

17. The following activities relate to office occupations.

    a. Arrange for an interview with a person in one of the following occupations in which you have an interest. Plan your interview with the assistance of the occupational orientation teacher.

       Accountant
       Bookkeeper, general
       Certified public accountant
       Clerk, billing
       Clerk, disbursement
       Receptionist
       Secretary, private
       Secretary, social

       Refer to Appendix F.

    b. Have the occupational orientation teacher borrow the senior high tele-training program from the telephone company. (It is a free service.) Also acquire the following free booklets from the same source: "How to Make Friends by Telephone," "The Voice With a Smile," and "Win More Friends by Telephone." He should contact:

       State Public Relations Manager
       South Central Bell Telephone Company
       P.O. Box 811
       Jackson, MS 39205

    c. After observing the correct procedure to follow in wrapping a package to be mailed, practice wrapping several different sizes and shapes of packages. If supplies such as wrapping paper and string are not available in the classroom, bring some large brown paper bags and/or some newspaper and string from home.

d. Borrow a typewriting book from the business teacher. Study its illustrations on folding letters for small and large envelopes. Practice folding several letters for each size of envelope.

e. Interview the person(s) in a local business who is responsible for the billing and disbursement duties in his organization. Prepare a list of questions prior to the interview that you would like to have answered. For example, how often bills are mailed or payments made, if any advertising is enclosed with the bills, etc. Ask for any information he can give about billing and disbursement procedures. Write a report about your findings.

f. Acquire samples of the different types of forms used in filling out income tax returns. These may be obtained from the Internal Revenue Service or local post office. Become familiar with these forms, and know the purposes of each.

g. Write for a social security card if you do not have one. Forms for requesting this card can be obtained from the post office in your town.

h. Borrow a bookkeeping textbook from the business teacher. Study the chapter on preparing a simple balance sheet. Ask the business teacher to explain any prints you do not understand. Have the occupational orientation teacher assign you a simple balance sheet to prepare. Complete the problem and give it to the teacher for evaluation.

i. Read any information you can find on balancing a bank statement. A bookkeeping textbook is one source where this information can be found. The teacher will assign you a problem that involves balancing a bank statement. Complete the problem and give it to the teacher for evaluation.

18. Some activities related to retailing occupations are listed below:

a. Arrange for an interview with a person in one of the following occupations in which you have an interest.

Auto parts counterman
Auto service advisor (manager)
Cashier, box office
Cashier, checkout
Front office clerk, hotel
Salesperson, retail

Refer to Appendix F.

b. Obtain a copy of the free booklet, "Tips on Making Change," which can be procured from:

Manager
National Cash Register Company (NCR)
6210 I-55 North
Jackson, MS 39212

Study this booklet carefully. Have your teacher to supply you with play money so you can practice making change. Have a classmate pretend to be a customer in a store. He will give you a certain denomination of money and you will make change according to the amount of merchandise he is pretending to buy.

c. Acquire sample blank sales tickets from several stores in your location. Ask someone in one of the stores to show you how to fill out the slip. Practice filling out the sales tickets you have accumulated.

d. Practice calculating sales tax for several different amounts of money. Have the teacher check your calculations for accuracy.

e. Secure some sample blank shop tickets from a garage in your town. Have someone in the garage show you how they should be filled out. Practice filling out the other samples you acquired.

19. Some activities for those interested in occupations with the telephone company are:

a. Invite an employee of the local telephone company to speak to the class on occupations with the telephone company.

Refer to Appendix D.

b. **Arrange a tour of a telephone company building or other facility.** Refer to Appendix E.

20. **Compile a list of all classes in your school which might apply to Organization occupations.**

Additional Occupations:

Additional occupations included in the OEK which may be classified in the Organization Group are listed below:

Messengers and Office Boys (OEK 15) (DOT 230.878)
Foreign Service Workers (OEK 72) (DOT 188.118)
Credit Collectors (OEK 91) (DOT 240.388)
Credit Workers (OEK 94) (DOT 249.368)
Executives (OEK 95) (DOT 189.118)
City Managers (OEK 96) (DOT 188.118)
Theater Managers (OEK 98) (DOT 187.168)
Bookshop and Bookstore Salesclerks (OEK 113) (DOT 289.358)
Department Store Salespeople (OEK 116) (DOT 289.458)
Food Store Workers (OEK 117) (DOT 290.877)
Export and Import Workers (OEK 163)
Federal Civil Service Workers (OEK 164)
Political Workers (OEK 168)
Retail Butchers (OEK 192) (DOT 316.884)
Farm Equipment Dealers (OEK 232) (DOT 277.358)
Gift Shop Owners and Managers (OEK 234) (DOT 185.168)
General Merchandise Salesclerks (OEK 240) (DOT 289.458)
Industrial and Labor Relations Workers (OEK 255) (DOT 169.118)
Drugstore Clerks (OEK 270) (DOT 266)
Airport Managers (OEK 271) (DOT 184.118)
Retail Clothing Salespeople (OEK 319) (DOT 289.458)
Correspondence Clerks (OEK 320) (DOT 204.288)
Customs Workers (OEK 321) (DOT 168.168)
File Clerks (OEK 328) (DOT 206.388)
Food Store Checkers (OEK 322) (DOT 299.468)
Internal Revenue Agents (OEK 335) (DOT 188.168)
Administrative Managers (OEK 339)
Restaurant Managers (OEK 350) (DOT 187.168)
Fund Raisers (OEK 353) (DOT 293.358)

Real Estate Appraisers (OEK 364) (DOT 191.287)

Small Business Owners (OEK 368)

Newsstand Vendors (OEK 369) (DOT 291.858)

Service Representatives for Public Utilities (OEK 372) (DOT 249.368)

Federal Government Inspectors and Examiners (OEK 390) (DOT 168.000)

Union Business Agents (OEK 393) (DOT 187.118)

Foreman (OEK 400)

Additional Activities:

1. Have the students discuss the following situation:

WHAT WOULD YOU DO?

Barbara has a part time job after school in a large drug store in a shopping center. One afternoon her best friend, Kathy, came into the store.

Barbara was putting up stock in the cosmetic department. She showed Kathy the beautiful new shades of lipstick the store had just received.

Kathy saw a lipstick that she wanted badly, but she didn't have enough money. She looked around and saw that no one was in the area. "Let's take a lipstick," said Kathy. "This is a big store and they make a lot of money. They won't miss two lipsticks."

Barbara would not take a lipstick and tried to persuade Kathy not to take one. Kathy would not change her mind and slipped one inside her purse.

What should Barbara do?

2. Have students discuss the following situation:

WHAT WOULD YOU DO?

Janice works every summer and weekends in the junior department of a fashion shop. She is an excellent saleslady and has a talent for knowing which clothes will sell.

During the past two years, the store manager gave Janice the responsibility of choosing the high school girls' styles to be ordered for the fall.

Recently the store manager was transferred to another town. The new manager does not seem to realize the amount of responsibility Janice is capable of handling. He has given her the duties of pressing clothes which have just arrived and putting out stock. Janice feels very hurt. She is thinking about quitting, but she needs the money that she earns.

What do you feel she should do?

3. Students may use this form to relate the importance of school subjects to various jobs in the Organization category. They should complete the chart with the jobs which interest them most.

SCHOOL SUBJECTS AND JOBS*

Fill in Job Blanks	Speech	English	Writing	Math	Science	Social Studies	Art	Music	Shop & Home Ec.	Other	Other

Make code entries on chart.

CODES:		
	E - Essential	Subject matter is absolutely necessary for success on the job or for completion of educational requirements for the job.
	I - Important	The subject matter is important to success on the job, although it may not always be an absolute requirement.
	U - Useful	The subject is very useful for the job and is usually directly related.
	S - Somewhat Useful	The subject is somewhat useful for the job.

*__Career Exploration, A Guide for Teachers.__ (Oklahoma State Department of Vocational and Technical Education), p. 37. Printed with permission.

Suggested Review Survey:

Circle the best answer.

T F 1. More persons are employed as bookkeepers than in any other occupation in the Organization Group.

T F 2. Fringe benefits for different Organization occupations usually vary drastically.

T F 3. Earnings vary greatly from one occupation to another in the Organization category.

T F 4. Business and Industry employ workers in Organization occupations, but government agencies do not.

T F 5. Actuaries must pass the CPA examination in order to be certified.

T F 6. A high school education is usually required for becoming a bank cashier.

T F 7. All of the Organization occupations require considerable contact with people.

T F 8. Persons working in "desk jobs" usually deal with "paper work."

T F 9. Group life insurance is seldom offered as a fringe benefit in Organization occupations.

T F 10. The Organization occupations are more important than any other group of occupations.

Answers to suggested review survey: 1, F; 2, F; 3, T; 4, F; 5, F; 6, T; 7, F; 8, T; 9, F; 10, F.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Free Printed Materials:

Accountant

ACCOUNTING FOR YOUR FUTURE 159 a

CAREER AS A CERTIFIED PUBLIC ACCOUNTANT, A 1 a

SHOULD YOU BE AN ACCOUNTANT? 136 a

WHAT'S IT LIKE TO BE AN ACCOUNTANT? 1 b

Actuary

ESSENTIAL EXECUTIVE, THE 78 a

SHOULD YOU BE AN ACTUARY? 136 b

Advertising

ADVERTISING: A CAREER OF ACTION AND VARIETY FOR EXCEPTIONAL MEN AND WOMEN 6 a

JOBS IN ADVERTISING 4 c

SHOULD YOU GO INTO ADVERTISING? 136 12

Banking

BANKING — AN OPPORTUNITY FOR YOU 10 a

SHOULD YOU BE A BANKER? 136 c

Bookkeeper

BOOKKEEPER (Occupational Guide) 112 c

Business

CAREERS IN BUSINESS 146 a

Cashier

CASHIER (Occupational Guide) 112 d

Clerical

CLERICAL AND RELATED OCCUPATIONS (Occupational Outlook Brief) 167 c

GENERAL OFFICE CLERK (Occupational Guide) 112 e

Consumer Finance

YOUR FUTURE — CAREERS IN CONSUMER FINANCE 123 a

Economist

BUSINESS ECONOMICS CAREERS 114 a

Foreign Service

SHOULD YOU GO INTO THE FOREIGN SERVICE? 136 s2

Government Workers

WORKING FOR THE U. S. A. 165 a

Hospital Administrator

SHOULD YOU BE A HOSPITAL ADMINISTRATOR? 136 q

Key-Punch Operator

KEY-PUNCH OPERATOR (Occupational Guide) 112 k

Manager

MANAGERIAL OCCUPATIONS (Occupational Outlook Brief) 167 g

Office Worker

CAN I BE AN OFFICE WORKER? 93 e

THINKING OF AN OFFICE JOB 167 q

Personnel Worker

SHOULD YOU GO INTO PERSONNEL WORK? 136 v2

WHY NOT BE A PERSONNEL SPECIALIST? 169 g

Petroleum

PETROLEUM MARKETING 45 a

Printing

CAREERS IN PRINTING 146 b

Private Business

BUILDING A FUTURE IN A BUSINESS OF YOUR OWN 45 b

Professions

PROFESSIONAL OCCUPATIONS (Occupational Outlook Brief) 167 h

Purchasing Agent

SHOULD YOU BE A PURCHASING AGENT? 136 c2

Receptionist

RECEPTIONIST (Occupational Guide) 112 p

Retailing

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X. Exploring Technology Occupations

Most Technology occupations involve physical activity. You may find an interesting occupation in this Group if you like to be active. Included here are those occupations concerned with modern industry. Technology occupations involve producing, maintaining, and transporting goods. Many of these involve working with one's hands. They usually involve building and assembling a variety of products.

Answering the following questions will assist in understanding Technology occupations:

1. **What occupations are in the Technology Group?**
2. **What is the nature of construction occupations?**
3. **What is the nature of aviation occupations?**
4. **What is the nature of electric power occupations?**
5. **What is the nature of telephone occupations?**
6. **What is the nature of machine operation occupations?**
7. **What is the nature of mechanics occupations?**
8. **What is the nature of printing occupations?**
9. **What is the nature of railroad occupations?**
10. **What is the nature of engineering occupations?**

1. What occupations are in the Technology Group?

The Technology Group contains a large number of occupations. The term "technology" has considerable variation in meaning. As used here, it includes all of the means by which material objects are produced. It includes the designing, producing, and servicing of products.

Occupations in engineering, crafts, and the machine trades are in this Group. In addition, some of the occupations in transportation and communication are included. Many of the persons trained in the physical sciences work in Technology occupations.

① **The Technology Group includes several broad occupational areas. These areas involve occupations in construction, aviation, electric power, telephone, machine operation, mechanics, printing, railroads, and engineering.** It should be noted, however, that these areas do not include all Technology occupations

Examples of occupations in the Technology Group are listed below:

Level 1

Consulting engineer—one who consults with and advises individuals with engineering problems. Such persons usually specialize in chemical, civil, or mechanical engineering.
(OEK 1, 2, 4) (DOT 008.081, 005.081, 007.081)*

Level 2

Aerospace engineer—designs, develops, and tests all types of aircraft and spacecraft.
(OEK 201) (DOT 002.081)

Agricultural engineer—designs, tests, and develops equipment and methods to improve the efficiency and economy of the production, processing, and distribution of food and other agricultural products.
(OEK 202) (DOT 013.081)

Air traffic controller—gives instructions, advice, and information to pilots by radio in order to avoid aircraft collisions when landing and to minimize delays as planes fly between, or in the vicinity of airports.
(OEK 345) (DOT 193.168)

*Refer to OEK and DOT coding system on page T-2 of introduction to Teacher's Edition.

Ceramic engineer—develops methods for processing clay, silicates, and other nonmetallic minerals into glassware, cement, bricks, and coatings for missile nose cones.
(OEK 204) (DOT 006.081)

Chemical engineer—plans, designs, and constructs chemical plants and equipment; researches and develops improvements in production of large quantities of chemicals to place on markets; researches and develops synthetic rubber and textile fibers, antibiotics, plastics, and other new products.
(OEK 1) (DOT 008.081)

Civil engineer—designs and supervises the construction of highways, bridges, airstrips, dams, sewerage systems, and many other types of structures.
(OEK 2) (DOT 005.081)

Dispatcher, airline—authorizes and regulates the safe and efficient flow of commercial flights by talking with the airplane captains through radio equipment at the airport terminal and aboard the aircraft.
(OEK 266) (DOT 912.168)

Electrical engineer—designs, develops, and assists in producing electrical and electronic equipment.
(OEK 3) (DOT 003.081)

Industrial engineer—seeks the best uses of men, materials, and machines in production processes in industry, including selecting tools and machines, conducting motion and time studies, and planning work flow and work areas.
(OEK 205) (DOT 012.188)

Mechanical engineer—designs and assists in the manufacture of internal combustion engines, jet and rocket engines, gas and steam turbines, nuclear reactors, and other motors and machines.
(OEK 4) (DOT 007.081)

Metallurgical engineer—assists in processing metals which are free from other metallic or nonmetallic materials; studies the physical characteristics of metals and their alloys, and works with methods of developing these metals into finished products.
(OEK 206) (DOT 011.081)

Mining engineer—assists in locating and removing iron, copper, limestone, gypsum, coal, petroleum, and natural gas from the earth; determines means for processing these minerals to remove unwanted substances.
(OEK 207) (DOT 010.081)

Pilot—prepares flight plans; checks and operates aircraft controls, equipment, and instruments necessary for flying a plane, keeping it on course, and landing it safely.
(OEK 31, 310) (DOT 196.283)

Systems analyst—studies problems of processing data and finding solutions to difficult business, scientific, and engineering problems through the use of electronic computers.
(OEK 357) (DOT 012.168)

Technical writer—researches and interprets technical and scientific data; and organizes, writes, and edits this data so the reader can understand it.
(OEK 286, 370) (DOT 139.288)

Level 3

Draftsman—takes ideas, rough sketches, specifications, and calculations of engineers, architects, and designers and makes working plans which can be used to construct buildings, highways, airplanes, and thousands of other products.
(OEK 33) (DOT 002.281, 001.281, 005.281)

Flight engineer—inspects aircraft tires, fuel tanks, and flight instruments before take-off; watches and operates many instruments during the flight to check the performance of the engine, air-conditioning system, pressure system, and electrical system; keeps records and reports mechanical failures.
(OEK 305) (DOT 621.281)

Ground radio operator—transmits important messages about weather conditions and navigation between air dispatchers, air-traffic controllers, and other ground station workers and flight engineers and pilots, or other flight personnel
(OEK 266) (DOT 193.282)

Sales engineer—sells various chemical, mechanical, and electronic equipment. A professional knowledge of engineering is required.
(OEK 114) (DOT 010.151)

Stationary engineer—observes meters, gauges, and other instruments to interpret the operating conditions of large boilers, diesel and steam engines, refrigerators, air conditioning machines, generators, turbines, pumps, and similar equipment used in large industrial plants and buildings; keeps records of temperatures and pressures; and operates switches and levers, and regulates valves on these instruments.
(OEK 177) (DOT 950.782)

Watch engineer, electric power—supervises workers responsible for the operation and maintenance of boilers, turbines, generators, switchboards, transformers, and other power plant equipment.
(OEK 126) (DOT 950.782)

Level 4

Aircraft mechanic—corrects oil leaks, repairs landing gear malfunctions, tests radio and electronic equipment, changes oil, cleans spark plugs; inspects, services, and overhauls the engine, the wings, tail assemblies, control cables, and fuel and oil tanks.
(OEK 151) (DOT 621.281)

Auto body repairman—removes dents, scratches, and old paint; replaces metal sections, glass and trim that cannot be repaired; uses a variety of hand and power tools to complete the job.
(OEK 301) (DOT 807.381)

Auto mechanic—finds the cause of improper operation of the automobile, using technical know-how and testing equipment; disassembles and overhauls engines, transmissions, clutches, and rear ends; grinds valves, adjusts brakes, and aligns front ends; adjusts, repairs, and installs alternators, starters, and other parts of the ignition system.
(OEK 85) (DOT 620.381)

Boilermaker—uses power shears, power presses, oxyacetylene torches, welding equipment, hoists, jacks, and riveting machines to install and repair boilers, tanks, or vats.
(OEK 316) (DOT 805.281)

Bricklayer—(also known as "brick mason") reads blueprints to check the specifications and lays brick in a straight manner, both horizontally and vertically, for walks, chimneys, and other structures; uses soft mortar, levels, gauge lines, trowels, jointers, chisels, and brick saws.
(OEK 22) (DOT 861.381)

Broadcast technician—sets up, operates, and maintains such radio and television station equipment as microphones, sound recorders, television cameras, magnetic video tape recorders, and motion picture equipment.
(OEK 302) (DOT 003.187)

Cablesplicer, electric power—installs and repairs underground lines by pulling the cable through conduits, joining it at connecting points, and wrapping insulation around the wires at the joints.
(OEK 28) (DOT 829.381)

Cameraman—starts the process of making a lithographic plate (offset printing plate) by photographing the copy of printed words or the copy of an illustration.
(OEK 287) (DOT 972.382)

Carman—works in railroad shops, yards, and terminal buildings, maintaining and repairing railroad freight and passenger cars.
(OEK 128) (DOT 622.381)

Carpenter—constructs, installs, and repairs buildings and other structures made of wood, uses a variety of hand and power tools, and studies blueprints to determine the design to use.
(OEK 23) (DOT 860.381)

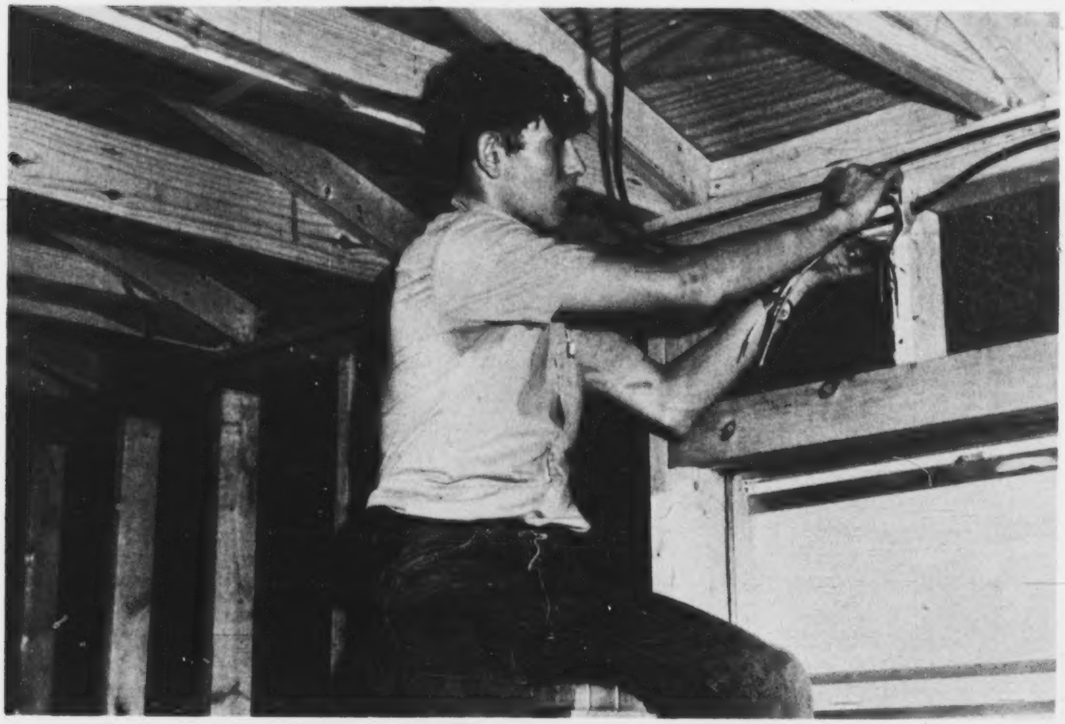
Conductor, freight—receives train orders from the railroad dispatcher and arranges departure time; arranges for repair of mechanical failures; keeps records of contents and destinations of each car, and sees that cars are collected and distributed along the route.
(OEK 128) (DOT 198.168)

Coremaker—prepares cores, usually of sand, which are placed in molds to form the hollows or holes usually required in metal castings from which products will be developed.
(OEK 103) (DOT 518.381)

Detailer—a draftsman who makes drawings of each part shown on a layout, giving dimensions, materials, and any other information necessary to make the drawing clear and complete for those who must produce the structure or object.
(OEK 33) (DOT 017.281)

Electrician, construction—follows blueprints to install switches, wires, conduits, controls, circuit brakers, and other electrical parts in homes, industrial plants, and other structures.
(OEK 25) (DOT 824.281)

Electrician, maintenance—reads blueprints of wiring, makes minor mathematical calculations; cuts, bends, and splices wire and conduit; repairs or replaces wire, fuses, transformers, coils, and switches; makes prompt repairs in electrical equipment using test lamps, ammeters, and oscilloscopes.
(OEK 25) (DOT 829.281)



An Electrician at Work. (Courtesy Milt Lawrence, Jackson, Mississippi.)

Electroplater—studies specifications for plating metal, mixes a compound of the plating metal with chemicals, and determines the amount of electric current and length of time needed for the process; gets the item ready for electroplating by cleaning and covering areas not to be plated; immerses the object in the solution, and puts the object through the electroplating process; inspects the plate and measures the thickness with micrometers, calipers, and other test instruments.
(OEK 311) (DOT 500.380)

Electrotyper—makes plates for books and magazine printing by the process of electroplating.
(OEK 90) (DOT 974.381)

Instrument maker—follows blueprints and sketches to make, modify, or repair timing devices, barographs, balance mechanisms, and other mechanical, electrical, or electronic instruments used in aircraft and missiles, laboratory testing, etc.
(OEK 27) (DOT 600.280)

Instrument repairman—inspects, tests, and repairs such instruments as automatic pilots, seismographs, thermographs, and photographic recording instruments, using a variety of test instruments and hand tools.
(OEK 334) (DOT 710.281)

Jeweler—handcrafts rings, necklaces, bracelets, and other precious jewelry out of gold, silver, or platinum.
(OEK 200) (DOT 700.281)

Lineman, electric power—erects power lines, splices, or replaces wires and cables, replaces insulation and transformers, replaces broken poles, and does other work to keep electricity flowing to consumers.
(OEK 28) (DOT 829.381)

Lineman, telephone—digs holes, sets in telephone poles, attaches the cables to the poles; places cables in underground conduits; splices broken cables and replaces broken poles.
(OEK 28) (DOT 822.381)

Locomotive engineer—operates the throttle, air brakes, and other controls of a railroad locomotive according to directions given by the conductor, outside signals, and the train radio.
(OEK 128) (DOT 910.383)

Locomotive fireman—helps the locomotive engineer see that there is plenty of fuel, sand, water, flagging equipment, and tools on board; helps the engineer by looking for objects on the track, looks for fire, and occasionally takes over the controls from the engineer.
(OEK 128) (DOT 910.383)

Machinist—uses blueprints to plan and select tools and materials required to shape metals, and sets up the machines so that the operation can be performed; uses scribers, calipers, micrometers, scales, and gages to obtain accuracy in the work performed.
(OEK 30) (DOT 600.280)

Make-up man—assembles type and photoengravings in page form for the printing machine.
(OEK 90) (DOT 973.381)

Marble setter—installs marble, shopmade terrazzo panels, artificial marble, and glass on walls and floors.
(OEK 22) (DOT 861.381)

Mechanic, refrigerator, air conditioning, and heating—installs, services, and repairs window air-conditioners, large central heating and cooling systems used in homes and commercial buildings, and display and walk-in coolers used in supermarkets; uses welding and solder equipment, test bulbs, hand tools, pressure gages, leak detectors, and other tools to work on compressor motors, heating elements, thermostats, piping and tubing, sheet metal ducts, and filters.
(OEK 191, 333) (DOT 637.281)

Meterman, electric—installs, repairs, and tests utility meters used in homes and large industrial and commercial establishments.
(OEK 126) (DOT 821.381)

Millwright—reads blueprints and schematic diagrams to move and install heavy industrial machinery; uses cranes, jacks, welding equipment, drills, and measuring equipment to prepare it for use.

(OEK 222) (DOT 638.281)

Ornamental iron worker—assembles and installs metal stairways, catwalks, iron ladders, window sashes and doors, metal cabinets, and bank safety deposit boxes; uses wrenches, welding equipment, and other tools to fasten the iron to the structure.

(OEK 304) (DOT 809.381)

Plumber and pipefitter—installs pipe systems that carry water, steam, air, or other liquids or gases; uses soldering and brazing equipment, threading tools, wrenches, hammers, saws, and other tools to cut, bend, thread, and fabricate piping to be installed.

(OEK 88) (DOT 862.381)

Roofer—places asphalt, felt and hot tar, tile, slate, shingles, or some other material to waterproof roofs, walls, swimming pools, and other building surfaces; uses felt, knives, hammers, mops, and other tools to complete the job.

(OEK 299) (DOT 866.381)

Set-up man—reads blueprints, job layouts, and specifications to prepare grinding machines, screw machines, lathes, drill presses, milling machines, and other machine tools for the operators to use while working with metals; uses micrometers, gages, and other instruments to prepare the machine tool for use.

(OEK 89) (DOT 616.380)

Sheet metal worker—reads blueprints and drawings to do sheet metal installation and repair work for ventilation, air conditioning, and heating systems, roofing, gutters, and other purposes; uses measuring tools, hand and power shears, bending tools, punches, drills, files, and other tools.

(OEK 89) (DOT 804.281)

Stonehand—works with composing type in a printing industry by arranging the type into a position in a metal frame in which it is locked into position.

(OEK 90) (DOT 973.381)

Stripper—arranges and pastes typed words, illustrations, and other art work on layout sheets to be photographed by the cameraman for offset printing plates.

(OEK 287) (DOT 971.381)

Structural iron worker—erects the steel framework of bridges, buildings, and other structures; pushes, pulls, and prys the prepared steel beams and girders into position while the steel parts are being held by a crane or some other hoisting equipment; fastens the steel parts by riveting or welding.

(OEK 304) (DOT 801.781)

Telephone and PBX (private branch exchange) installer and repairman—services and repairs PBX systems, and telephones in homes, private businesses, etc., using wire cutters, screwdrivers, and other tools.

(OEK 359) (DOT 822.381)

Tool and die maker—makes and repairs devices which are used to hold metal while it is being shoved, stamped, or drilled by machine tools; makes gages and other measuring instruments to be used in making precision metal parts; uses machine tools and precision measuring instruments to make these devices.

(OEK 198) (DOT 601.280)

Tool designer—prepares sketches of designs, or ideas, for making tools and devices, special fixtures and other items to be used in mass producing articles.

(OEK 7) (DOT 007.081)

Troubleman, electric power—repairs wires, transformers, and other power equipment needing service during an emergency; uses wire cutters, special wrenches, and other tools and equipment to make the repairs.

(OEK 126) (DOT 829.281)

TV-radio repairman—repairs and maintains electronic equipment such as radios, televisions, and tape recorders by checking tubes, soldering loose connections, and testing circuits with a voltmeter, ohmmeter, and oscilloscope; sets up and installs electronic equipment.

(OEK 346) (DOT 720.281)

Watch repairman—repairs, adjusts, and regulates watches, clocks, chronometers, electric-operating and other timepieces; uses a timing machine, demagnetizer, electric meters, and other equipment and precision tools to do the work.
(OEK 179) (DOT 715.281)

Level 5

Asbestos insulation worker—covers pipes, boilers, and other equipment with such insulation materials as cork, felt, fiberglass, asbestos, and magnesia; uses hand tools such as trowels, brushes, hammers, saws and pliers to cut, fit, and attach the insulation.
(OEK 307) (DOT 863.884)

Assembler—works in the apparel industry; brings together and bundles garment pieces and other items (linings, tapes, trimmings) needed to make a complete garment.
(OEK 83) (DOT 781.687)

Baker—produces bread, rolls, pies, cakes, doughnuts, cookies, crackers, pretzels, ice cream cones and other items; uses instruments to control timing and temperature; greases pans, mixes dough by hand, and removes bread in plastic bags; weighs and measures ingredients of pies, cakes, etc., and mixes them by machine.
(OEK 21) (DOT 526.781)

Boiler operator, electric power—observes gages, meters, and other instruments mounted on boiler panels in steam electric plants and regulates the fuel, air, and water supply in the boilers to keep the proper steam pressure for turning the turbines.
(OEK 126) (DOT 951.885)

Bookbinder—folds, sews, staples, or binds magazines, books, pamphlets, business forms, calendars, and other printed items; uses power presses, trimming machines, sewing machines, and other equipment to do the binding tasks.
(OEK 56) (DOT 977.884)

Brakeman, railroad—sees that the proper flags and signal lights are used; signals the engineer when to start and stop the train; throws track switches; inspects air brake equipment and looks for sparks, smoke, and other indications of sticking brakes, and overheated wheel bearings; sometimes assists the passenger train conductor by collecting tickets and looking after the needs of the passengers.
(OEK 348) (DOT 910.884)

Bus driver, intercity—makes sure the bus is ready for passenger service by checking the oil, gas, water, and tires; drives the bus from city to city following time schedules and keeping within speed limits; supervises the loading and unloading of baggage; picks up and discharges passengers and takes up fares; prepares reports on mileage, time, and fares.
(OEK 57) (DOT 913.463)

Bus driver, local—transports people to and from work, schools, and homes; makes regular stops every block or two to pick up and discharge passengers; collects change, tokens, tickets, or transfers; issues other transfers, sells tokens, and makes change; provides passengers with information on routes, streets, and transfer points; keeps a record of trips made, fares received, and delays in schedule.
(OEK 230) (DOT 913.463)

Checker—examines garments for proper workmanship.
(OEK 83) (DOT 789.687)

Corrugator—regulates the speed of a paper machine that glues together paperboard with alternate ridges and grooves; the paperboard is used in the manufacture of shipping containers.
(OEK 178) (DOT 643.782)

Digester operator—determines the amount of chemicals to be used and the cooking temperature and pressure to be maintained in a digesting machine used in the wood-pulp industry; and directs the loading of the machine with wood chips and chemicals.
(OEK 226) (DOT 532.782)

Floor covering installer—installs, replaces, and repairs tile, linoleum and vinyl, and carpeting on the floors of homes, businesses and other buildings; uses knives, shears, tape measures, straightedges, chalk, adhesive trowels, and other tools to cut, fit, and install floor covering.
(OEK 14) (DOT 864.781)

Glazier—cuts, fits, and installs plate glass, window glass, mirrors, leaded glass panels, and shower doors; uses glass cutters, putty knives, and grinders.
(OEK 363) (DOT 865.781)

Inspector, manufacturing—examines raw materials, parts, assemblies, and mass-produced finished products to see that they meet previously determined specifications or requirements.
(OEK 327)

Lather—installs metal lath, or large pieces of gypsum lath as support or holding material on which plaster, fireproofing, or tile can be applied to walls and ceilings.
(OEK 337) (DOT 842.781)

Linotype operator—uses a keyboard to select letters and other characters that form lines of type for manuscript copy; reads from a copy while striking the keyboard and operating a lever that causes the slug (metal with raised letters) to be deposited in a tray.
(OEK 90) (DOT 650.582)

Molder—makes molds by packing and ramming sand around a pattern (a model of an object to be duplicated) in a molding box called a flask, using such tools as mallets and air hammers.
(OEK 228) (DOT 518.381)

Monotype operator—operates keyboards similar to those on a typewriter which perforates ribbons of paper used to make type by the monotype caster.
(OEK 90) (DOT 650.582)

Oxygen cutter—cuts and trims metals, using a hand-guided or mechanically controlled oxygen torch.
(OEK 199) (DOT 816.782)

Paper hanger—prepares surfaces to be covered, measures the area to be covered and cuts wallpaper to size; mixes a paste and applies it to the reverse side; places the paper on the wall and smooths it into place; uses rollers, cutters, and other tools to complete the work.
(OEK 87) (DOT 841.781)

Patternmaker, foundry—studies a blueprint of the part to be cast, and makes a pattern, using wood or metal stock; uses such machine tools as lathes, planers, handsaws, sanders, and many hand tools.
(OEK 342) (DOT 600.280)

Phototypesetting operator—sets type on a machine which produces a film or photographic print paper rather than a metal slug; presses keys, individual matrixes, or mats, which contain small film negatives; feeds perforated paper tape, or a magnetic sound tape into a machine that "reads" the tapes and photographs the characters on the tapes.
(OEK 287) (DOT 650.582)

Plasterer—applies a plaster coating or stucco to walls and ceilings; applies three coats of the material to a backing to which the plaster sticks; uses trowels, straightedges, floats, and other hand tools to complete the work.
(OEK 227) (DOT 842.781)

Platemaker—works with zinc or aluminum plates used in offset printing; exposes the plate through the negative or positive to strong arc lights, usually done in a vacuum printing frame; develops and chemically treats the plate to bring out the image.
(OEK 287) (DOT 972.381)

Power truck operator—operates self-powered trucks which have a hydraulic or electric-lifting mechanism to lift and move coal, cartons, machinery, lumber, and other heavy materials and equipment.
(OEK 344) (DOT 922.883)

Pressman—gets the offset printing press ready to print copy by installing the metal plate on the press, adjusts the pressure for proper printing, and adjusts the blankets which take the impression from the plate and transfer it to the paper; adjusts water and ink rollers, and mixes ink; manipulates the switches and levers while the press is running.
(OEK 287) (DOT 651.782)

Printer pressman—prepares type forms and press plates for final printing by locking them into place on a platen or cylinder press, adjusts the ink flow on the press, provides paper for the "run," and tends the press while making the copies.

(OEK 90) (DOT 651.782)

Proofreader—checks trial pages of typed copy against a proof before final copies are made; looks for misspelled words, improper sentences, and typegraphical errors; marks mistakes using a special code.

(OEK 373) (DOT 209.688)

Pumpman—maintains and operates power-driven pumps that circulate processed and unprocessed petroleum products, and chemical solutions through an oil refinery plant.

(OEK 196) (DOT 549.782)

Sewing machine operator—works in the apparel industry; uses sewing machines that have special attachments to sew on buttons, sew shoulder seams, attach cuffs to sleeves, sew hems, and other operations.

(OEK 351) (DOT 787.782, 787.885)

Stereotyper—makes duplicate molds or mats of papier-mache (a strong material composed of paper pulp) for letterpress in newspaper printing; operates a machine having heavy powerdriven steel rollers to impress type and photoengravings on a mat; adjusts gages for time, heat, and pressure.

(OEK 90) (DOT 975.782)

Stillman—operates distillation units used in processing crude oil in a petroleum refining industry; watches instrument readings and regulates the flow of air and changes in temperature and oil pressure.

(OEK 196) (DOT 542.280)

Stonemason—works with a set of drawings to set natural cut stone such as marble, granite, or limestone, and artificial stone made from cement or other masonry material; works with a derrickman who helps put the stones in place; uses chisels, hammers, trowels, and brushing tools to put the stones in place, fill the cracks, and clean the stone.

(OEK 22) (DOT 861.781)

Sub-station operator, electric power—directs the flow of electric current out of a substation by means of a switchboard; observes ammeters, voltmeters, and other types of instruments on the switchboard; operates levers to connect or break the flow of current; checks the operation of equipment.

(OEK 126) (DOT 952.782)

Teletypist—transmits written messages by operating a teletype machine that has a keyboard similar to that of a typewriter.

(OEK 261) (DOT 203.588)

Terrazzo worker—prepares ornamental concrete floors and patios using concrete, marble chips, metal strips, and other materials; uses a straightedge, trowel, electric-powered grinding machine, and other tools to level the concrete marble chips and metal strips, and to polish the surface after it hardens.

(OEK 170) (DOT 861.781)

Towerman, railroad—operates the controls which throw railroad track switches, and sets signals to route traffic according to train schedules or special routes.

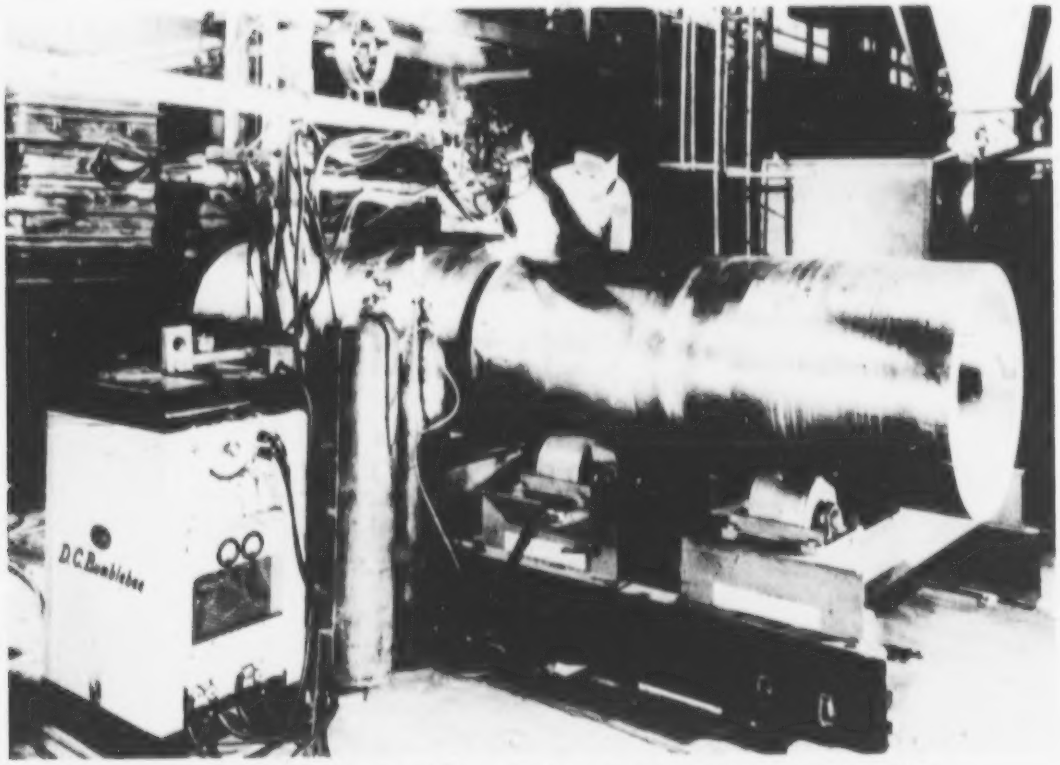
(OEK 128) (DOT 910.782)

Turbine operator—observes pressure gages, thermometers, and other instruments on steam- or water-powered turbines which drive generators that produce electric power; records information shown by these instruments, shuts down and starts the equipment as directed by the switchboard operator.

(OEK 126) (DOT 952.782)

Welder—joins metals by applying heat to melt the edges of the metals and cause them to fuse; uses arc, gas, resistance, and combination welding machines to do the work.

(OEK 199) (DOT 810.884)



Considerable Skill May Be Required to Perform Certain Technology Occupations. (Courtesy American Welding Society, New York.)

Level 6

Arc cutter—uses an electric arc to trim or cut metals to desired specifications.
(OEK 199) (DOT 816.884)

Bulldozer operator—operates a tractor that has a blade across the front to move dirt and to push trees and rocks from an area.
(OEK 285) (DOT 850.883)

Frameman—connects wires from telephone lines and cables to distributing frames in telephone company central offices, using soldering iron and other hand tools.
(OEK 28) (DOT 822.884)

Groundman—helps in the erection of utility poles and the installation and repair of overhead power lines and communication lines.
(OEK 126) (DOT 821.887)

Hod carrier—supplies the bricklayer, plasterer, or stonemason with bricks, concrete, mortar, or plaster.
(OEK 22) (DOT 869.887)

Machine tool operator—works with milling machines, lathes, grinders, drill presses, and screw machines to shape metals to precise dimensions; places metal stock in the machine; checks machine for proper functioning, and uses special gages to measure stock.
(OEK 82) (DOT 601.280)

Meter reader, electric—checks and records the readings on the meter dials to determine how much electricity has been consumed for a certain period of time so that the customer may be charged for the amount used; reports improperly operating meters to the meterman.
(OEK 126) (DOT 239.588)

Painter—prepares the surfaces of buildings and other structures, and applies paint, varnish, enamel, and lacquer to these surfaces; mixes paints, matches colors, and erects scaffolding; uses spray guns, brushes, and rollers to apply the paint.
(OEK 87) (DOT 840.781)

Painter, production—uses a spray gun to apply coats of paint or other protective material such as enamel, lacquer, and stain; cleans surfaces, mixes paint, and loads and adjusts the spray gun.
(OEK 225) (DOT 741.884)

Power shovel operator—operates a power driven machine having a movable shovel that lifts and dumps dirt, rock, sand, and other materials.
(OEK 285) (DOT 850.883)

Reinforcing iron worker—sets steel bars in concrete forms to reinforce concrete structures by arranging and tying the bars so that each bar receives its intended load; uses steel pliers and other tools to wire the rods in place.
(OEK 304) (DOT 801.884)

Stationary fireman—operates and maintains steam boilers used to power industrial machinery, and to heat factories; inspects equipment, lights boilers, cleans boilers, and oils and greases moving parts; maintains proper steam pressures by controlling the flow of air, gas, oil, or coal to the firebox.
(OEK 177) (DOT 950.782)

2. *What is the nature of construction occupations?*

The products of construction occupations are all around us. Most common are the homes we live in; the factories, offices, and schools we work in; and the roads we travel on. ② More than four million people are employed in construction work. Some of the construction occupations with the largest number of workers are listed below:

Asbestos insulation worker
Bricklayer (mason)
Bulldozer operator
Carpenter
Cement mason
Civil engineer
Draftsman
Elevator constructor
Floor covering installer
Glazier
Hod carrier
Lather
Marble setter
Ornamental iron worker
Painter
Paper hanger
Plasterer
Plumber and pipe fitter
Power shovel operator
Reinforcing iron worker
Roofer
Structural iron worker
Terrazzo worker

③ Most construction work requires physical activity. It has been called a "man's type of work." However, women have recently started to work in some of these occupations. Working conditions may be hot in the summer months and cold during the winter months. Many opportunities for creativity are provided. Some workers may move about—sometimes many miles to new jobs. Many construction workers are self-employed and do only local work.

Students planning to enter one of these occupations should take courses in mathematics and science. Courses in woodworking and mechanical drawing are also helpful. Many construction workers enter the field through apprentice training. Others enter the field as laborers, or helpers and learn the trade by working with experienced craftsmen. Still others attend vocational schools to learn the trade. It may take several years to learn the skills necessary to be a carpenter, bricklayer, marble setter, or other construction worker.

A construction trade craftsman may advance to be a job foreman, an estimator, job superintendent, or salesman for a building supply company. Some even form their own construction companies and contract jobs. However, the contract construction field is very competitive.

The employment outlook for construction workers is very promising. New highways and bridges are being constructed at an increasing rate. Many new homes and apartment buildings are being built, particularly in the suburbs near large cities. Buildings for schools, businesses, and industries will be needed. Such structures will create many job openings. The demand for young workers is great. This is because few young people are entering the construction occupations. This has created a shortage of laborers and skilled workers.

3. *What is the nature of aviation occupations?*

Aviation occupations are concerned with air transportation. There are two main kinds of aviation occupations: Those concerned with military activity and those concerned with civilian, or non-military, transportation. Examples of civil aviation occupations include:

- Aerospace engineer
- Aircraft mechanic
- Airline dispatcher
- Air traffic controller
- Engineering technician
- Flight engineer
- Ground radio operator
- Pilot
- Teletypist

The airline industry is very important today. People are becoming increasingly mobile, and are relying upon quick, safe, and comfortable air travel. Air freight has become increasingly important for the quick delivery of manufactured goods. About 375,000 people are employed in civil aviation occupations. Of these more than 200,000 are employed by scheduled airlines. Most work is in and around cities.

A high school education is essential for most aviation occupations. In fact, many of these occupations require a college degree. Aerospace engineers have four years of college, and some do graduate work. Each airline has its own requirements for personnel. Many times the airline sponsors its own training school.

History, social studies, economics, and other high school subjects which contribute to a good general education are beneficial to persons interested in work in civil aviation.

The future of civil aviation is bright. It is estimated that more than 180,000 general aviation aircraft will be flying by 1980. This can be compared with approximately 100,000 in 1970.

4. *What is the nature of electric power occupations?*

Nearly every American home, business, and community is dependent upon electricity. Electric power is required for communication systems, mechanized industries, and home appliances. Nearly one million people are employed in producing electricity at generating plants and in distributing electricity at substations and electric utility companies. Some electric power occupations are:

- Boiler operator, electric power
- Cable splicer
- Electrical engineer
- Electrician, construction
- Electrician, maintenance
- Engineer technician, electrical
- Groundman
- Lineman, electric power
- Meterman, electric power
- Meter reader, electric power
- Powerplant equipment operator
- Power switchboard operator
- Substation operator
- Troubleman, electric power
- Turbine operator, electric power
- Watch engineer, electric power

Beginning power plant workers may be required to do clean-up jobs or work as helpers in order to become familiar with the equipment and operation of a power plant. They may advance to more responsible jobs as openings occur and as they master skills. For example, it takes from one to three years to become an auxiliary equipment operator (auxiliary equipment includes fans, blowers, condensers, compressors, and water conditioners in a power plant), and four to eight years to become a boiler operator or turbine operator. Applicants are generally required to have a high school education or its equivalent. Formal apprenticeships in these jobs are rare. Workers employed in atomic-powered electric plants must have special training to work with radioactive fuel.

Meter Reader at Work. (Courtesy Mississippi Power and Light Company, Jackson, Mississippi.)

Most electric transmission and distribution workers begin as helpers. Advancement to the more skilled jobs may take three to seven years. Skilled linemen usually have about four years of on-the-job training. In some companies, this training is available through formal apprenticeship programs. Applicants for line work should be strong and in good physical condition. Linemen climb poles and work high above the ground. Many times live wires may surround them. They work during hot, cold, and wet weather conditions. Emergency conditions caused by high wind and storms may require extra hours of work. Linemen may be required to lift heavy wires and equipment.

Metermen and meter readers begin their jobs as helpers in the meter repair shops. About four years of on-the-job training is necessary to become a fully qualified meterman.

Most electrical engineers, electrical engineer technicians, and maintenance electricians are employed in industries other than electric-power industries. About five years of college are required for electrical engineers. Construction electricians and maintenance electricians may receive training in vocational programs in high school or junior college. However, many begin work as helpers and receive their training on the job.

High school students interested in pursuing a career in the electric-power industry would do well to take mathematics, physics, chemistry, and related vocational classes.

5. What is the nature of telephone occupations?

The telephone occupations included here are concerned with the construction, installation, and maintenance of telephone equipment. The occupations involving the office aspects of telephone operation are in the Organization Group. Some of the occupations discussed here include cable splicer, lineman, telephone and PBX installer and repairman, and frameman.

Nearly 400 million local and long distance telephone calls are made daily in the United States. More than 100 million telephones are in use. This demands a tremendous network of telephone lines and cables to supply the service. Those who work in the construction, installation, and maintenance of telephone lines and equipment are vital to the telephone industry.

Telephone jobs may be found in almost every community. However, most are in large cities with many industrial and business establishments. One large telephone operation, The Bell System, serves about five out of every six of the nation's telephones. The remainder are served by smaller independent companies.

Applicants for jobs in the telephone industry must have at least a high school education. Many times applicants must have two years of study at a junior college. Applicants for jobs as linemen and cable splicers should be physically qualified for such work. (Their work is similar to electric-power linemen.) Manual dexterity and the ability to distinguish color are also important qualifications. Telephone companies generally do not require previous experience or training for these jobs. On-the-job training after employment is very important.

Employment opportunities for cable splicers and linemen may be somewhat limited. The same will be true for PBX installers, repairmen, and framemen.

High school students desiring to work in these occupations would do well to take courses in mathematics and physics. Basic electricity and electronics would also be helpful in preparing to enter a telephone occupation.

6. What is the nature of machine operation occupations?

Machine operation occupations are primarily concerned with machines that work with metal. Almost every product made by American industry contains metal parts, or is made by machines made of metal parts. About 500 different types of machine tools are currently in use. More than one million people are employed in the machine industry. Machining workers (those who use machine tools to shape metals) make up the largest occupational Group in the metal-working trades. About four-fifths of all machining workers are employed in the metal-working industries. Many work in nonmetal-working industries such as railroad shops and maintenance shops of factories that make textiles, paper, glass, and chemicals.

Examples of machine occupations are listed on page 101.

MEN
WORKING

Linemen at Work. (Courtesy Mississippi Power and Light Company, Jackson, Mississippi.)

Arc cutter
Industrial engineer (also found
 in other industries)
Inspector
Instrument maker
Layout man
Machine tool operator
Machinist
Mechanical engineer
Millwright
Oxygen cutter
Set-up man
Sheet metal worker
Tool and die maker
Tool designer
Welder

Many of the workers in machine and machinery occupations are identified with the machines they operate. People who work in these occupations work in a mechanized environment. They may be required to work with the same equipment for long periods of time. Other workers may be involved in a series of machine operations. For example, the machinist may work with several different types of machine tools and be required to perform several jobs on each.

Workers such as millwrights, layout men, tool designers, and inspectors deal with complicated work specifications.

Persons who desire to enter machine and machining occupations should have an interest in watching machines in operation. They should have an interest in how machines function and produce goods.

Industrial engineering and mechanical engineering require about five years of college leading to a bachelor's degree. Engineers may receive on-the-job training before actually assuming major responsibilities. Arc cutters, oxygen cutters, machine tool operators, and inspectors usually learn the trade through experience under the supervision of craftsmen. Tool and die makers, instrument makers, machinists, millwrights, and set-up men may receive their experience and training through an apprenticeship program. Layout men may be required to complete an apprenticeship program as machinists and have several years of experience to develop the necessary skills for this occupation. Persons interested in machine or machinery occupations should have good mechanical aptitude and a liking for machinery.

Mathematics and science courses would help prepare one for these occupations. Metal trades, welding, and machine shop courses will help prepare students for entrance into work as sheet metal workers, oxygen cutters, arc cutters, welding machine operators, and machine tool operators.

Employment opportunities may be limited in some machine or machinery occupations because of technological developments in machine tools and machinery. Automated machining lines in which machine tools are linked together are being used. Numerically (computer) controlled machine tools are being increasingly used. Such automated equipment will replace some machine operators, but there will be a need for trained personnel to operate this equipment.

A Welder at Work. (Courtesy American Welding Society, New York.)

7. *What is the nature of mechanics occupations?*

Mechanics and repairmen keep automobiles, ship engines, watches, television sets, typewriters, washing machines, airplanes, and industrial machinery in operating condition. These workers represent one of the fastest growing occupational Groups. Most are highly skilled workers who have spent several years learning the trade. Many of these occupations are concerned with the same machinery as the machine operations occupations. Examples of mechanics and repairmen occupations are listed below.

- Aircraft mechanic
- Appliance serviceman
- Auto body and fender repairman
- Automobile mechanic
- Business machine repairman
- Diesel engine mechanic
- Instrument repairman
- Maintenance electrician
- Millwright
- Refrigeration, air conditioning, and heating mechanic
- Ship engine occupations
- Stationary engineer
- Stationary fireman
- Watch repairman

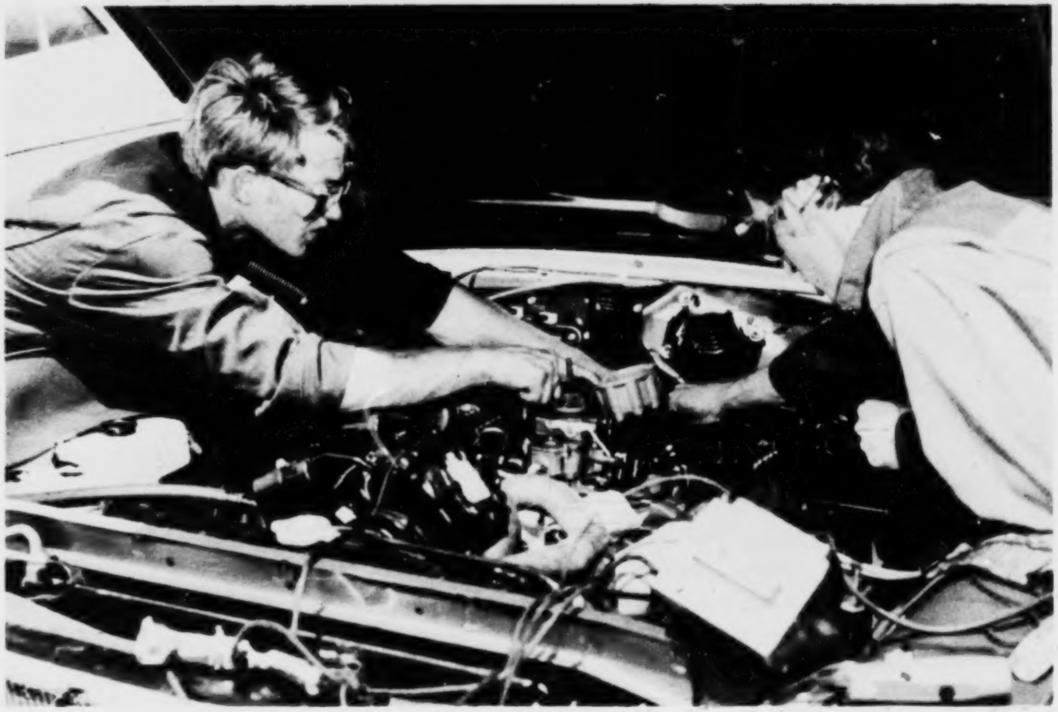
There are more than three million mechanics and repairmen in the United States. Almost one-third of these (785,000) are automotive mechanics, such as car, truck, and bus mechanics, or automobile body and fender repairmen. More than 100,000 are employed as appliance servicemen, industrial machinery repairmen, television and radio repairmen, and aircraft mechanics. About 650,000 workers are employed as maintenance electricians, millwrights, watch repairmen, stationary engineers, and stationary firemen.

Most mechanics and repairmen are highly skilled workers. A high school education is often required for employment as mechanics and repairmen. Good mechanical aptitude and manual dexterity are essential for satisfaction and success in these occupations. Watch repairmen need patience, finger dexterity and good vision. Millwrights need to be strong and agile.

Many mechanics and repairmen learn their skills in vocational and technical programs in high schools and junior colleges. Others learn their skills on the job, or through apprenticeship programs.

High school students contemplating entering one of these occupations should consider taking classes in mathematics, chemistry, and physics. Many high schools offer automobile mechanics, auto body and fender mechanics, diesel engine mechanics, machine shop, and other vocational courses. The public junior colleges offer courses in refrigeration, air conditioning, and heating; business machine repair; aircraft mechanics; maintenance electricity (industrial electricity); watch repair; radio and television repair; and other areas.

The employment of automobile mechanics, aircraft mechanics, diesel mechanics, radio and television repairmen will increase rapidly in the next ten years. Employment as ship engine workers, auto body and fender repairmen, millwrights, maintenance electricians, and watch repairmen will not increase as rapidly. However, there will be a variety of career opportunities open to young people who are mechanically inclined and are willing to invest a few years in learning the skills of a trade.



Automobile Mechanics at Work. (Courtesy Milt Lawrence, Jackson, Mississippi.)

8. What is the nature of printing occupations?

The American people depend heavily upon printed materials as a medium of communication. Many rely upon newspapers for keeping up with world affairs. Textbooks and other printed materials are used in school. Much work goes into the writing, editing, printing, and duplication of printed matter. Several printing and related occupations are listed below.

Bookbinder
Cameraman
Compositor
Electrotyper
Linotype operator
Make-up man
Monotype operator
Phototypesetter

Platemaker
Pressman
Printer pressman
Proofreader
Stereotyper
Stonehand
Stripper
Technical writer

The printing industry is one of the largest service industries in our nation. Approximately one million people are employed as cameramen, printing equipment operators, proofreaders, and in other printing and related occupations. Most towns of any size have some kind of printing business. New technological developments have enabled the industry to print better materials and provide more colorful illustrations. New skills are required in this respect.

Apprenticeship is the most common way of entering these occupations. However, technical writers usually are required to have a bachelor's degree in English, journalism, engineering, or science. A thorough knowledge of spelling, punctuation, the fundamentals of grammar, and basic mathematics is essential in many of the printing occupations. Some knowledge of chemistry, electronics, and physics is becoming increasingly important.

Students who are planning to enter printing occupations immediately after high school may prepare by enrolling in a vocational offset printing course. Another way to learn about printing is to work in a print shop in a cooperative education class.

Employment of lithographic (offset printing) craftsmen is expected to grow. However, the employment of linotype operators, hand compositors, photo-typesetting operators, and bookbinders will probably decrease because of rapid developments in printing processes and equipment and the increasing use of other printing methods. Employment opportunities for electrotypers and stereotypers may also be limited.

9. What is the nature of railroad occupations?

The importance of railroads has declined in recent years. This does not mean, however, that workers cannot have rewarding careers in railroad occupations. Examples of railroad occupations include the following:

Brakeman, railroad
Carmen
Conductor, freight
Locomotive engineer
Locomotive fireman
Telephoner–telegrapher
Towerman

The combined rail lines of all railroad companies in the United States make a network of 200,000 miles of lines. Approximately 50,000 towns and cities are served. Close to three-quarter million persons are in railroad occupations. Food, household appliances, lumber, coal, petroleum products, pulpwood, automobiles, aircraft, space equipment, and many other products are transported by rail.

Railroad companies prefer to hire people who have graduated from high school. Most companies train their own workers.

The seniority system is well established with most railroad companies. For example, openings for conductors are filled on a seniority basis by promotion of a qualified brakeman. Immediate opportunities for careers after high school as freight conductors and locomotive engineers are limited. Most new employees in the railroad industry start by working with experienced men and with experience advance to other positions.

10. What is the nature of engineering occupations?

Many of the engineering and related occupations are also listed with other areas of Technology occupations. Engineering is the second largest profession. Only teaching exceeds it in size. Some common engineering occupations are:

Aerospace engineer
Ceramic engineer
Chemical engineer
Civil engineer
Electrical engineer
Industrial engineer
Mechanical engineer
Metallurgical engineer
Mining engineer

There are approximately one million engineers in the United States. About half of these are employed by manufacturing industries producing aircraft, industrial machinery, chemicals, and electrical equipment. Many are employed by federal, state, and local government agencies. More than 30,000 are employed by educational institutions.

④ **People successful in engineering and related occupations usually have high interest in the physical things about them. This is important because they are directly involved in many intellectual, mechanical, and scientific activities. Students who are considering becoming engineers need to take classes in science and mathematics in high school. At least four years of college are required. Many engineers enroll for additional study and take advanced degrees.**

Goal:

Students should become familiar with Technology occupations and the interests and abilities which are important for success in these areas. They should also compare their own interests and abilities with those needed for success in various Technology occupations.

After the students have read Chapter X, have them discuss the following questions:

Review Questions:

1. What broad occupational areas are included in the Technology Group? p. 86
2. What is the nature of the following occupations? p. 96
    - Draftsman
    - Bricklayer
    - Carpenter
    - Roofer
    - Baker

   The listed occupations are included in the Technology category and, with the exception of baker, are in the construction area.

3. Why are construction occupations called "a man's type of work"? p. 96
4. What is the main distinction between engineering occupations and most other occupations in this Group? p. 105

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Review various occupational information materials. Carefully note all occupations which are in the Technology Group. List occupations other than those given in this publication which you believe are in the Technology Group.
   Refer to Appendix P and references listed at the end of this chapter.
2. Invite someone who is employed in a Technology occupation to visit your class and discuss the nature of his work.
   Refer to Appendix D.
3. Develop a display, bulletin board, or poster depicting occupations in the Technology Group. Obtain pictures from magazines or newspapers which show workers in Technology occupations.
4. Review the want ads of a newspaper. Cut out those in the Technology Group and place them on a poster or bulletin board. Note where the jobs are found, the rate of pay, and requirements for entry.
   Refer to Appendix I.
5. Select one or more occupations in the Technology Group in which you are interested. Determine the following information for each occupation: (Your teacher may have prepared some forms for your use.)

OCCUPATIONAL STUDY OUTLINE

A. *Name of Occupation:*

B. *Duties of the Occupation:*

C. *Qualifications:* What are the personal requirements?

D. *Age:* How old must I be to enter the occupation?

E. *Sex:* Is this an occupation in which others of my sex are normally employed?

F. *Specific Physical and Health Requirements:* Am I the correct height to do the work? Are my eyesight and hearing adequate? Am I strong enough?

G. *Interest:* Do I possess this interest? If not, could I develop interest in this type of work?

H. *Abilities:* Do I possess the required abilities? If not, could I acquire the knowledge and skills necessary to do the job?

I. *Personality:* Do I possess the personal qualities necessary for doing this type of work? If not, could I develop these qualities?

J. *Values and Attitudes:* Does anything about this job violate values and attitudes I have about people and work? If so, could I adjust to situations that required that I change my values and attitudes?

K. *Preparation:* What subjects do I need to study? What special training will I need? How long will it take to receive this training? How much will it cost? Can I get this training within the state? Is work experience required for entry into this occupation? What is the method of entry into this occupation?

L. *Working Conditions on the Job:* Is it hazardous work? Is it noisy or dirty? Will I be working in shifts? Will I work indoors or outdoors? Is it hard work? Does the work require being away from home for long periods of time?

M. *Rewards from Work:* How much is the beginning pay? Is there chance for advancement? Will this work experience help me get a better job? Would I be happy doing this type of work?

N. *Employment Outlook:* How many are employed in the occupation at present? Are there employment opportunities in my community or state for this type of work?

O. *Special Requirements (such as certification, licenses, and examinations):*

6. Review the yellow pages of the local telephone directory. Prepare a list of all businesses which might have Technology occupations.

7. Make a list of all the persons you know who work in Technology occupations. Also indicate their occupation and employer.

8. Form a panel of six students to discuss the importance of Technology occupations in the community, the state, and the nation. Each member of the panel should study these occupations before the panel begins its discussion.

   It is suggested that the teacher have the class divide into six groups. Each group may do research on the above mentioned subject and choose one group member to represent the group on the panel.

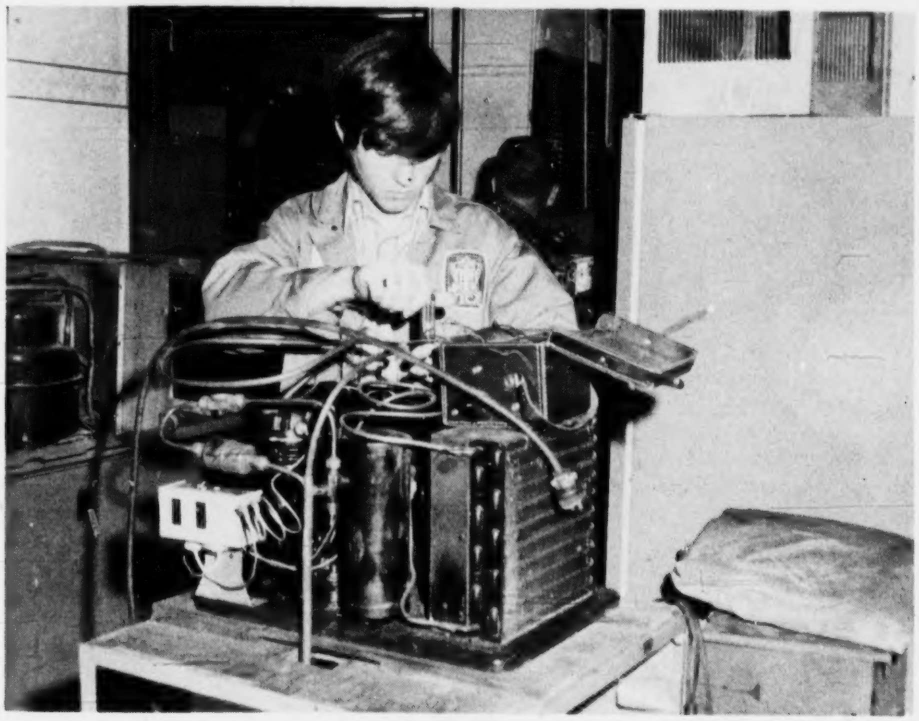
9. Visit the trade and industrial department in your school. Have the teacher explain the facilities found there. (It is suggested that arrangements for the visit be made well ahead of the visit.)

10. Investigate VICA. Determine what it is, what it does, and how it functions.

The Vocational Industrial Clubs of America, known as VICA, is a national organization of students presently enrolled in vocational courses offered in trade, industrial, health, or technical education in our public schools.

More information about VICA may be obtained by writing:

State Supervisor
Trade and Industrial Education
P. O. Box 771
Jackson, Mississippi 39205



One of the skill activities conducted during a VICA Leadership Conference.

11. As the class members name the local businesses and firms that employ people in Technology occupations, write them on the chalkboard. Ask if any members of the class know people employed at these places.

12. Perform one or more of the following activities related to construction occupations:
    a. Study carefully the lot and construction of the lot, foundation, floor, walls, ceiling, and roof of your home and school. List the occupations that were represented in the construction of these buildings.

b. Arrange to visit several construction sites to observe workers on the job and to talk with the workers about their work. Write a report of your findings. List the occupations that appeared to be most interesting and the tools used in the work. Also, give reasons why these occupations seem to interest you the most.
Refer to Appendix E.

c. Acquire a blueprint and specifications for a building. Study the drawings and specifications as they relate to the occupations that interest you.

d. Practice using the tools that are used by workers in construction work (hammer, rules, framing square, paint brushes, hand saw, trowels, levels, screwdrivers, sledge hammer, chalk line, etc.). Obtain tools and materials to make one or more projects that would be useful in the home. Do repair work around your home to get experience in the occupations in which you are interested. The following are some suggested activities: level a tool shed or some other small building; fix a leaking water pipe; mix mortar and build a four-inch brick foundation wall around an existing building; repair the roof on a building; pour a concrete sidewalk slab (prepare the site for pouring); using a brush, apply paint to a wooden surface; remove a broken window pane and install new glass; obtain some asbestos insulation and study its characteristics.

e. View one or more of the following films:

(1) *The Construction Worker.*
Available from: Modern Talking Pictures Service
214 South Cleveland Street
Memphis, Tennessee 38101

(2) *Careers in the Building Trades.*
Available from: Coronet Instructional Films
65 East South Water Street
Chicago, Illinois 60601

(3) *Operating Engineers* (bulldozers, cranes, derricks, steamshovels).
Available from: National Special Media Institutes
Inventory of Resources
Michigan State University
East Lansing, Michigan 48823

(4) *Painting and Decorating.*
Numbers (4) through (9) are available from:
Film Library, Curriculum Coordinating Unit
Drawer DX
State College, Mississippi 39762

(5) *Plumbing.*

(6) *Brick and Stone Mason.*

(7) *The House Builders.*

(8) *Brick Laying.*

(9) *Drafting: Occupations and Opportunities.*

f. Read the following book:
Jobs in Building Construction.
Available from: Science Research Associates, Inc.
259 East Erie Street
Chicago, Illinois 60611

g. Volunteer to work as a "helper" after school hours or on Saturday at a local construction site. It may be necessary to do clean-up and pick-up work, as many construction occupations are covered by the Child Labor Law and are classified as hazardous. Persons under 14 years of age cannot work in certain jobs.

13. Conduct one or more of the following activities related to civil aviation:
    a. Arrange to visit an airport to make an on-sight observation of the work carried on by civil aviation workers. Plan to talk with someone employed in the specific occupation in which you are interested. Ask to see some of the "paper work" he is required to do. Also, ask the dispatcher or traffic controller for an airline schedule of arrivals and departures. Refer to Appendix E.
    b. Arrange to view one of the following films:
        (1) *Aviation--The Career for Marc.*

Available from:
National Institutes Inventory of Resources
Industrial Arts
Michigan State University
East Lansing, Michigan 48823

        (2) *Aviation Mechanic* (FA-315).

Numbers (2) and (3) are available from:
Federal Aviation Administration, Film Library
AC-921, Aeronautical Center
Oklahoma City, Oklahoma 73125

        (3) *Traveler Meets Air Traffic Control.* A (FA-102).
    c. Read the following book:
    Neal, Harry E. *Skyblazers: Your Career in Aviation.* (1958).

Available from:
Julian Messner
1 West 39th Street
New York, New York 10018

14. Conduct one or more of the following activities related to electric power and telephone work:
    a. Study carefully the electrical system in your home. Determine the purpose of a transformer used ahead of the wires entering your home, the purpose of a distribution panel, fuses, and circuit breaker in your home; and why the correct amount of electricity is normally present at light sockets and wall outlets. Write a report of your findings.
    b. Obtain a basic electricity book for reference and do the following activities:
        (1) Strip the insulation from a short piece of electrical wire using wire strippers.
        (2) Splice two short pieces of electrical cable using wire cutters, wire strippers, and tape.
        (3) Acquire a construction plan and identify electrical symbols.
        (4) Use a wire gage or micrometer to find gage and diameter for several sizes of wire.
        (5) Write a two page report briefly explaining electromagnetism (the magnetic effects of a conductor carrying a current.)
        (6) Study Ohm's Law and work several problems using Ohm's Law. Get the assistance of the mathematics or science teacher if you cannot work these problems.
        (7) Observe the watt hour meter that registers the consumption of electricity in your home. You will notice that it measures electricity in kilowatt hours. Identify the correct reading on the meter. Determine the basic operation of the meter.
        (8) Ask the science teacher to show you how electric current, voltage, and resistance are measured by an electric meter.
        (9) Take an old lamp socket and extension cord and attach the lamp socket to the extension cord, making it safe for use as a source of light. Use the following procedure:
            (a) Disassemble the socket into its individual parts.
            (b) Strip the insulation from the end of the extension wire using wire strippers. Insert the wire through the base and cap lining of the socket.
            (c) Tie an underwriter's knot in the wire.
            (d) Fasten one end of each wire onto a terminal on the base of the lamp socket.
            (e) Assemble. The shell should fit inside the case and snap into position.

c. Plan to observe a lineman, cable splicer, or groundman (telephone or electric power) working with utility lines in your town or in the country. Write a report describing his work and the equipment, tools and supplies used in the work.

Plan to view one or more of the following films:

(1) *The Electrical Worker.*

Both (1) and (2) are available from:

Modern Talking Picture Service
214 South Cleveland Street
Memphis, Tennessee 38104

(2) *The Telephone Man.*

15. The activities listed below relate to machining and machinery occupations. Do one or more of those which interest you the most.

a. Obtain several working drawings of machines, metal parts, and other objects. Borrow a mechanical drawing book from the mechanical drawing instructor, or check one out of the school library. Study the illustrations in the book. Use the book to determine the importance of a working drawing, and to determine what certain kinds of lines, signs, and abbreviations mean.

b. Go to the machine shop or agriculture shop and ask permission to tour the area. Look closely for the types of hand tools, measuring devices, and machine tools used in metal work. Hand tools used in metal work include machinists hammers, scribes, punches, files, pliers, wrenches, hack saws, drill presses, milling machines, lathes, grinders, etc. Determine the purpose and use of each of these items in machine and machining work. You may gather this information by observing someone using the tools and equipment in a shop, or by reading a metal work or machine shop textbook.

Refer to Appendix E.

c. Do several of the following activities in the school shop. (If necessary, refer to a metal work or machine shop textbook.)

(1) Measure the length of a short piece of metal stock with a steel tape or rule.
(2) Measure the thickness of a thin piece of scrap metal with an outside micrometer.
(3) Cut a piece of scrap tin along a straight line using tin snips.
(4) Use hand wrenches to loosen and tighten bolts and nuts holding parts together.
(5) Attach a welding torch or a cutting torch to a regulator, using a dual-type hose. Get your instructor, or the shop instructor, to help prepare the welding machine for operation. Then try running a fusion bead using two pieces of scrap metal.
(6) Drill a hole through a flat piece of metal with a drill press. Use a vise to hold the metal stock firm.
(7) Use a file to cut rough edges from a piece of metal. Hold the metal in a vise.
(8) Bend a piece of sheet metal and thin metal stock into some desired shape.
(9) Do straight turning on a metal lathe.

d. Plan to see one or more of the following films:

(1) *Precision Tool Making and Machining.*

Available from: Modern Talking Picture Service
214 South Cleveland Street
Memphis, Tennessee 38101

(2) *Jobs in Mechanical Work.* Job Family Series No. 2.

Available from: Science Research Associates, Inc.
259 East Erie Street
Chicago, Illinois 60611

(3) *Knowledge and Skills* (story of Trade and Industrial Education).

Available from: Association Films, Inc.
2221 Faulkner Road, Northeast
Atlanta, Georgia 30321

(4) *Futures in Welding.* S.C.A. 1963, 20 min., color.
Available from:
National Special Media Institutes
Inventory of Resources
Michigan State University
East Lansing, Michigan 48823

(5) *Machinist: You Always Do the Best Job You Can.*
Available from:
Film Library, Curriculum Coordinating Unit
Drawer DX
State College, Mississippi 39762

e. Recording:
Mechanical Interest Occupations. Side 4. Record Series: "Exploring the World of Work."
Available from:
Wilson Corporation
555 West 166th Street
South Holland, Illinois 60473

f. Read one or more of the following publications:

(1) *Opportunities in the Machine Shop Trades.*
Available from:
Vocational Guidance Manuals
235 East Forty-fifth Street
New York, New York 10017

(2) Berg, Thomas, *Aim For a Job in Welding.*
Available from:
Richards Rosen Press, Inc.
29 East 21st Street
New York, New York 10010

(3) *Careers in Automation.* 1968 edition.
Available from:
Hawthorn Books, Inc.
70 Fifth Avenue
New York, New York 10011

16. Conduct one or more of the following activities which relate to mechanics and repairman occupations:

a. Purchase a radio kit (AM and FM). These kits can be ordered complete with step-by-step instructions from various companies. Assembling the kit should give you some idea of the work of a radio-TV repairman.

b. Change the oil and clean the air filter on your lawnmower engine. Your mower probably has instructions explaining the procedure.

c. Acquire a power mechanics book and do several of the following activities:

(1) Write a report on the history of power.

(2) Study your automobile and identify the fuel system, electrical system, cooling system, power train, suspension system, steering system, and braking system. In a written report, briefly explain the function of each.

(3) Write a report in which you briefly explain the difference between a diesel engine and your automobile engine. Also, relate the importance of diesel engines in transportation.

(4) Write a report on the tools and equipment used by power mechanics in service and repair work.

(5) In a written report, explain the types of aircraft engines, and the types of engines and propulsion systems used in space flights.

d. Obtain a basic electricity book and do the following activities:

(1) In a written report, explain the use of electricity in an air conditioning system, refrigerator, electric range, electric hot water heater, and electric iron.

(2) Write a report in which you briefly explain the meaning of positive and negative charges of electricity, electromagnetism, Ohm's Law, electrons, atoms, electronics, and circuits.

(3) Prepare a list of hand tools used in electrical work.

e. Plan to see one or more of the following films:

(1) *The Electrical Worker.*

Films (1) through (3) are available from:

Modern Talking Picture Service
214 South Cleveland Street
Memphis, Tennessee 38101

(2) *The Motor Mechanic.*

(3) *The Electronic Technician.*

(4) *Your Future in Electronics.* 21 min.

Available from:
Mr. C. E. Thomson, Registrar
RCA Institute, Inc.
350 West 4th Street
New York, 14, New York

f. Read one of the following books:

(1) Neal, Harry E. *Your Career in Electronics.*

Books (1) and (2) are available from:

Julian Messner
1 West 39th Street
New York, New York 10018

(2) Gordon, George and Falk, Irving A. *Your Career in Television and Radio.*

(3) Daly, Donald F. *Aim For a Job in Air Conditioning and Refrigeration.*

Books (3) through (6) are available from:

Richards Rosen Press, Inc.
29 East 21st Street
New York, New York 10010

(4) Taylor, Dawson, and Bradley, James. *Aim for a Job in Automotive Service.*

(5) Lipton, Benjamin J. *Aim for a Job in Watchmaking.*

(6) Taylor, Dawson. *Your Future in the Automotive Industry.*

17. Perform at least one of the following activities which pertain to printing and related occupations:

a. Tour a newspaper office or some other printing shop. Make notes about the types of equipment used, and the function of each. Prepare a report about the field trip and present it to the class.

Refer to Appendix E.

b. Obtain and study a list of proofreader's marks. The business teacher can help provide resource material such as a typewriting book. Such books will have proofreader's marks for study. Get a typewritten page and proof the copy, using the proofreader's marks to indicate mistakes.

c. Clip several small articles and pictures from a newspaper. Lay out and paste the pictures and articles on a standard sheet of notebook paper, making maximum use of the space available.

d. Plan to see the following film:

What Greater Challenge (newspaper industry). 10 min.

Available from:
Copley Productions
434 Downer Place
Aurora, Illinois 60606

e. Read one or more of the following publications:

(1) Fujita, Neil. *Aim for a Job in Graphic Design/Art.*
Books (1) and (2) are available from:
Richards Rosen Press, Inc.
29 East 21st Street
New York, New York 10010

(2) Reinfield, George, Jr. *Your Future in Printing.*

(3) Gould, Jay. *Opportunities in Technical Writing.* 1964 ed.
Available from: Vocational Guidance Manuals
235 East Forty-fifth Street
New York, New York 10017

18. Conduct one or more of the following activities about railroad occupations:

a. Study available information and write a report on the advantages and disadvantages of working for a railroad.

b. Plan to spend some time after school hours observing the activities of persons working at a railroad station and with trains. Interview the telephoner–telegrapher, or fireman. Locate and interview a conductor, carman, or engineer while he is off-duty. Also pick up a train schedule at the station. Study the schedule to determine departure locations and hours.

Refer to Appendix F.

c. Study available information and write a report on the history of the railroads, the jobs that were created, and the changes in jobs that have recently been created as a result of new technological developments.

d. Read the following book:

Liston, Robert. *Your Career in Transportation.* 1966 ed.
Available from: Julian Messner
1 West 39th Street
New York, New York 10018

19. The activities listed below pertain to various engineering occupations. Conduct one or more of the following:

a. Read one of the following books:

(1) Boyd, Waldo T. *Your Career in the Aerospace Industry.*
Books (1) and (2) are available from:
Julian Messner
1 West 39th Street
New York, New York 10018

(2) Neal, Harry E. *Engineers Unlimited.* 1968.

(3) Shackleton, Paul S. *Opportunities in Electrical and Electronic Engineering.*
Books (3) through (5) are available from:
Vocational Guidance Manuals
235 E. Forty-fifth Street
New York, New York 10017

(4) Scholes, Samuel Ray. *Opportunities in Ceramic Engineering.*

(5) Stone, Archie A. *Opportunities in Agricultural Engineering.*

b. Arrange to see one of the following films:

(1) *Engineer: Man of Destiny.*
Films (1) and (2) are available from:
National Special Media Institute
Inventory of Resources
Michigan State University
East Lansing, Michigan 48823

(2) *Careers in Engineering.*

c. Aerospace Engineer, Engineer Technician

(1) Use your imagination to design a new type of aircraft or spacecraft. Draw a picture of the craft on paper and make a model with metal or wood. Write a report explaining the structure, instruments to be used, propulsion system, materials that would be used to build the craft, how it would be manufactured, and how it would be tested.

(2) Acquire an engineering materials book from the school library or the science department. Include the following information in a four-page report: definition of nonferrous metals and alloys, desirable qualities of nonferrous metals and alloys, uses of nonferrous metals and alloys in the aircraft and space industry (particularly aluminum and aluminum alloys, titanium and titanium alloys), and the mechanical and physical properties of aluminum and titanium.

(3) Arrange to interview an aerospace engineer at an aircraft and parts industry, at a commercial airline terminal, or at a college or university that has an aerospace engineering department.

Refer to Appendix F.

(4) Write the following source for additional information:

American Institute of Aeronautics and Astronautics, Inc.
2 East 64th Street
New York, New York 10021

d. Agricultural Engineer

(1) Use your imagination to design a new type of farm equipment, machinery, or structure. Draw a picture of the design on paper, or make a model from wood or metal. Write a report explaining the use of the item, how it varies from other similar items, materials necessary to manufacture the item, how it would be manufactured, and what testing, if any, will need to be done before it will be put to practical use.

(2) Develop basic plans for building a dairy barn, using the most modern equipment and work area arrangements. Consult your teacher about using part of the plan in practical application on your farm, or someone else's farm.

e. Chemical Engineer, Ceramic Engineer

(1) Talk with the chemistry teacher or other science teachers about doing the following activities in the science laboratory.

(a) Set up apparatus and test several materials (ores, minerals, gases, etc.) for the presence of elements and substances.

(b) Write a two-page report about common hazards in a chemistry laboratory. Include a plan to minimize such hazards, including equipment and apparatus alterations.

(2) Ask the science teacher to explain what high school courses are essential for those seeking careers in chemical engineering or ceramic engineering. Ask the science teacher to explain the nature of the work done by technicians in these two fields.

f. Civil Engineer

(1) Visit a local water and waste water treatment plant to observe technicians and engineers on the job. This may be done in the field or in a laboratory. Include several aspects of your findings in a report, such as how water is tested for purity, how water is purified, and methods used to analyze waste water (sewage). Summarize how the city water (for household use) is stored and made available to the consumer (distribution design).

Refer to Appendix E.

(2) Acquire a mechanical drawing book that has a chapter on topographical drawing. (Consult your mechanical drawing or drafting instructor.) Study the symbols for works of man, elevations and depressions, and vegetation. Develop a topographical drawing of your school and the immediate property and roads surrounding the building.

g. Mechanical Engineer

(1) Consult your mechanical drawing instructor or drafting instructor to do the following activities: Acquire a mechanical drawing book. Study the various drafting instruments, materials, and equipment used in drawing. Obtain a set of drafting instruments and try your hand at some geometric constructions involving straight lines, angles, arcs, tangents, and ellipses. Finally, sketch a simple-complex object in orthographic projection (three views).

(2) Study a jig or fixture, or a die that is used in the machine shop. Try your hand at redesigning the object for greater ease and economy in manufacturing. Make sketches with all necessary dimensions.

(3) Study the heating system in your home. Include the following facts in a written report: energy source (gas, electricity, etc.); mechanical components (motors, compressors, blowers, etc.); controls (thermostatic, pneumatic, etc.); and the heating and cooling capacity of the unit(s) in BTU. (Explain the function of each component and the controls.)

(4) Study the engine of your automobile. In a written report, list the major components of the automobile. Tell briefly what each component does and how it works.

h. Mining Engineer

(1) Use a library resource book to write a report on the following:
  (a) Types of minerals that are mined.
  (b) How minerals differ from natural resources (forests, water, etc.).
  (c) How minerals are mined, including constructing the facilities (mining engineer role), and the equipment and tools used.
  (d) Types of mines.

(2) Make a study of your county to see if any mining is being conducted. Typical minerals that are mined in the South are phosphate used in fertilizers; limestone used in cement, lime, and iron; shale, sand, and gravel; iron ores; and coal. Visit a mining site to see the operation.

(3) Find out the value of various minerals. Determine the methods and equipment used to detect and locate minerals. Talk with a geologist, geophysicist, geochemist, or mining engineer about their roles in mining. Find out how much of a particular mineral must be present to make it economically feasible to begin mining operations.

Additional Occupations:

Additional occupations included in the OEK which may be classified in the Technology Group are listed below:

Custom Tailors and Dressmakers (OEK 24) (DOT 785.261)
Fur Industry Workers (OEK 26) (DOT 783)
Photoengravers (OEK 29) (DOT 971.381)
Merchant Seaman (OEK 53) (DOT 911)
Bowling Machine Mechanics (OEK 58) (DOT 829.281)
Aerospace Industries Manufacturing Workers (OEK 81)
Cleaning and Dyeing Workers (OEK 59) (DOT 362.782)
Iron and Steel Workers (OEK 84) (DOT 801.781)
Structural Clay Products Manufacturing Workers (OEK 102) (DOT 579.884)
Meat-Packing Workers (OEK 106) (DOT 525.884)
Shoe Manufacturing Workers (OEK 108) (DOT 788)
Laborers (OEK 109)
Warehouse Workers (OEK 110) (DOT 922.887)
Aluminum Industry Workers (OEK 121)
Food Freezing and Canning Workers (OEK 123) (DOT 529.886)
Furniture Manufacturing Workers (OEK 124) (DOT 763.884)
Plastics Industry Workers (OEK 125)
Blacksmiths (OEK 127) (DOT 610.381)
Rubber Industry Workers (OEK 129)
Upholsterers (OEK 130) (DOT 780.884)
Industrial Machinery Repairmen (OEK 152) (DOT 626.281)
Hat and Millinery Workers (OEK 153) (DOT 784.281)
Office Machine Servicemen (OEK 154) (DOT 633.281)
Electronic Technicians (OEK 155) (DOT 003.181)
Shipbuilders (OEK 156) (DOT 806.381)
Shoe Repairmen (OEK 157) (DOT 365.381)
Textile Industry Workers (OEK 159)
Tobacco Manufacturing Workers (OEK 160)
Confectionery Industry Workers (OEK 171) (DOT 529.381)
Drug Manufacturing Workers (OEK 172)
Ice-Cream Manufacturing Workers (OEK 173)

Glass Manufacturing Workers (OEK 174)
Laundry Workers (OEK 175) (DOT 361)
Leather Manufacturing Workers (OEK 176)
Diesel Mechanics (OEK 193) (DOT 625.281)
Nuclear Engineers (OEK 203) (DOT 015.081)
Photographic Manufacturing Workers (OEK 221)
Cement Manufacturing Workers (OEK 223)
Industrial Chemical Manufacturing Workers (OEK 224) (DOT 559)
Musical Instrument Manufacturing Workers (OEK 229) (DOT 730)
Building Contractors (OEK 231) (DOT 182.168)
Air-Conditioning Engineers (OEK 253) (DOT 007.081)
Fire Protection Engineers (OEK 254) (DOT 012.188)
Ship Designers (OEK 259) (DOT 001.081)
Dairy Industry Workers (OEK 262)
Soft Drink Industry Workers (OEK 268)
Nonferrous Metals Industry Workers (OEK 269)
Motion Picture Projectionist (OEK 279) (DOT 960.382)
Engineering Technicians (OEK 282) (DOT 007.181)
Safety Engineers (OEK 292) (DOT 012.081)
Divers (OEK 306) (DOT 899.281)
Physics Technicians (OEK 312) (DOT 023.081)
Assemblers in the Electronics Industry (OEK 314) (DOT 726.781)
Atomic Energy Technicians (OEK 315) (DOT 015)
Data-Processing Machine Servicemen (OEK 323) (DOT 722)
Railroad Track Workers (OEK 349) (DOT 869.887)
Traffic Engineers (OEK 360)
Pest Control Operators (OEK 362) (DOT 389.884)
Aerospace Technicians (OEK 381)
Operations Research Analysts (OEK 392) (DOT 020.088)
Systems Engineers (OEK 397) (DOT 169.228)

Additional Activities:

1. Have students discuss the following situation:

WHAT WOULD YOU DO?

Carl wants to learn about electronics and enter an occupation in this area. He talked to an Air Force Recruiter and learned that he could receive training in electronics by enlisting in the Air Force.

Carl was surprised when he talked with his steady girl friend, Penny, about his plan. Penny became very upset. She doesn't want Carl to join the Air Force. She is afraid that he will be stationed far from home.

Carl explained to Penny that they could afford to marry sooner if he were receiving his occupational training in the Air Force. Penny still does not like the idea as she feels that then they both might be living far away, and she would not be able to visit her mother.

Carl loves Penny and wants to marry her. He feels that he and Penny should plan together for the future. However, Carl wants very much to work in the area of electronics. He wants to please Penny but doesn't want her to "boss" him around.

What alternatives does Carl have? What would you do?

2. Have students discuss the following situation:

WHAT WOULD YOU DO?

Robert makes average grades in school. He finds it hard to sit and study for very long. He often fails a test for which he has studied because he reads slowly.

Robert enjoys riding his motorcycle and often spends hours working on it. He also enjoys hanging around the motorcycle repair shop.

When discussing his plans for the future, Robert says that he wants to go to college and become a psychologist. He says that he scored highest in the mechanical area on an interest inventory, but he doesn't want to try this area as he doesn't like to get dirty.

Do you think Robert has made a wise choice?

3. Students may use this form to relate the importance of school subjects to various jobs in the Technology category. They should complete the chart with jobs which interest them most.

SCHOOL SUBJECTS AND JOBS*

Fill in Job Blanks	Speech	English	Writing	Math	Science	Social Studies	Art	Music	Shop & Home Ec.	Other	Other

Make code entries on chart.

CODES:	E - Essential	Subject matter is absolutely necessary for success on the job or for completion of educational requirements for the job.
	I - Important	The subject matter is important to success on the job, although it may not always be an absolute requirement.
	U - Useful	The subject is very useful for the job and is usually directly related.
	S - Somewhat Useful	The subject is somewhat useful for the job.

***Career Exploration, A Guide for Teachers.** (Oklahoma State Department of Vocational and Technical Education), p. 37. Printed with permission.

Suggested Review Survey:

Circle the best answer.

1. The Technology Group includes occupations in:
   a. construction
   b. printing
   c. railroads
   d. all of the above
2. Which occupations are referred to as a "man's type of work"?
   a. Aviation
   b. Machine operation
   c. Construction
   d. Engineering
3. What percentage of engineers are hired by industries producing aircraft, industrial machinery, chemicals, and electrical equipment?
   a. 10%
   b. 25%
   c. 50%
   d. 75%
4. Which of the following occupational areas has the most employees?
   a. Engineering
   b. Printing
   c. Mechanics
   d. Electrical power
5. The importance of railroads in the past few years has:
   a. declined
   b. increased
   c. remained the same
6. Growth in the mechanics occupations in the past few years has:
   a. declined
   b. increased
   c. remained the same
7. Employment of lithographic (offset printing) craftsmen is expected to:
   a. decline
   b. increase
   c. remain the same
8. In which of the following types of occupations is apprenticeship the most common method of entry?
   a. Printing
   b. Engineering
   c. Telephone
   d. Aviation
9. The largest number of mechanics are employed as:
   a. aircraft mechanics
   b. appliance servicemen
   c. automobile mechanics
   d. diesel engine mechanics
10. Which of the following would not be considered a construction occupation?
    a. Painter
    b. Bookbinder
    c. Civil engineer
    d. Bulldozer operator

Answers to suggested review survey: 1. d; 2. c; 3. c; 4. c; 5. a; 6. b; 7. b; 8. a; 9. c; 10. b.

Resources:

- Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Free Printed Materials:

Appliance Service Technician

YOUR CAREER AS AN APPLIANCE SERVICE TECHNICIAN 74 a

Automobile Service

AUTOMOBILE MECHANIC (Occupational Guide) 112 b

AUTOMOBILE SERVICE WORK (Job Opportunity Guide) 139 a

PLAN YOUR CAREER IN THE AUTOMOTIVE SERVICE INDUSTRY 75 a

Baker

CAREERS UNLIMITED IN THE MODERN BAKING INDUSTRY 9 a

Bricklayer

BRICKLAYING AS A VOCATION 156 a

Building Trades

TOP HAND IN THE BUILDING TRADES 158 a

Ceramics

CERAMICS — TODAY'S TECHNOLOGY, TOMORROW'S FUTURE 3 b

CERAMICS — UNLIMITED HORIZONS 3 a

FOR CAREER OPPORTUNITIES EXPLORE THE WONDER WORLD OF CERAMICS 14 a

Computer

COMPUTER CAREERS 22 a

COMPUTER CAREERS BROCHURE 77 a

SHOULD YOU GO INTO COMPUTER PROGRAMMING? 136 o2

Construction

CONSTRUCTION INDUSTRY OPPORTUNITIES 72 b

CONSTRUCTION — A MAN'S WORK 72 a

SHOULD YOU GO INTO THE CONSTRUCTION BUSINESS 136 p2

Craftsman

CAN I BE A CRAFTSMAN? 93 a

Draftsman

CAN I BE A DRAFTSMAN? 93 b

SHOULD YOU BE A DRAFTSMAN? 136 k

- Electrical-Appliance Repairman
    - ELECTRICAL-APPLIANCE REPAIRMAN (Occupational Guide) 112 g
- Electrician
    - ELECTRICIAN (Occupational Guide) 112 h
    - ELECTRICAL WORKERS' STORY 105 a
- Electronic Service Technician
    - ELECTRONIC SERVICE TECHNICIAN, THE — FUTURES UNLIMITED 85 a
- Electric Utility Industry
    - ARE YOU A MAN OF ENERGY? 83 a
- Engineer
    - AGRICULTURAL ENGINEERING 53 a
    - CAN I BE AN ENGINEER? 93 c
    - CAREER IN TRAFFIC ENGINEERING, A 101 a
    - CAREER OPPORTUNITY WILL EXTEND YOUR REACH, A (Metallurgy) 51 a
    - CAREERS IN METALLURGY MATERIALS, SCIENCE, AND METALLURGIC ENGINEERING 110 a
    - CAREERS IN PETROLEUM ENGINEERING 153 a
    - ENGINEERING A CAREER OF OPPORTUNITY 86 b
    - ENGINEERING: A CHALLENGE 86 a
    - ENGINEERING CAREERS IN THE COAL INDUSTRY 122 a
    - INDUSTRIAL ENGINEERING 32 a
    - MATERIALS ENGINEER TODAY AND TOMORROW, THE 51 b
    - MECHANICAL ENGINEERING 59 a
    - PENETRATING NEW FRONTIERS WITH MINERALS 152 a
    - SHOULD YOU BE A MANUFACTURING ENGINEER? 136 t
    - SHOULD YOU BE MANUFACTURING ENGINEER? 151 a
    - SHOULD YOU BE AN AERONAUTICAL ENGINEER? 136 c
    - SHOULD YOU BE AN ELECTRONIC ENGINEER? 136 m
    - SHOULD YOU BE AN ENGINEER? 136 n
    - WHY NOT BE AN ENGINEER? 169 c
    - YOUR CAREER AS AN AEROSPACE ENGINEER 29 a
    - YOUR CAREER IN CHEMICAL ENGINEERING 79 b
    - YOUR FUTURE IN AIR-CONDITIONING, HEATING, AND REFRIGERATOR ENGINEERING 57 a

YOUR FUTURE IN CIVIL ENGINEERING 56 a

Gas-Appliance Serviceman

GAS-APPLIANCE SERVICEMAN (Occupational Guide) 112 i

Graphic Communications

GRAPHIC COMMUNICATIONS — NOT JUST A JOB BUT A CAREER 2 a

Household-Appliance Repairman

HOUSEHOLD-APPLIANCE REPAIRMAN (Occupational Guide) 112 j

Leather Worker

LET'S LOOK AT LEATHER 175 a

Lithography

CHOOSE YOUR CAREER IN A GROWTH INDUSTRY 115 a

Mechanic

YOUR FUTURE IN PLUMBING, HEATING, AND COOLING 116 a

Mineral Industry

SHOULD YOU GO INTO THE MINERAL INDUSTRY? 136 u2

Nuclear Scientist

SHOULD YOU BE A NUCLEAR SCIENTIST? 136 w

Outboard Motor Mechanic

OUTBOARD MOTOR MECHANIC (Occupational Guide) 112 o

Painter

PAINTER IN THE BUILDING AND DECORATING TRADES 139 g

Printing

SHOULD YOU GO INTO THE PRINTING INDUSTRY? 136 x2

Railroads

HUMAN SIDE OF RAILROADS, THE 73 a

RAILROADS IN ACTION 73 b

Sewing Machine Operator

SEWING MACHINE OPERATOR (Job Opportunity Guide) 139 k

Skilled Workers

SKILLED AND OTHER MANUAL OCCUPATIONS (Occupational Outlook Brief) 167 j

Space Scientist

SHOULD YOU BE A SPACE SCIENTIST? 136 g2

Technical Writer

TECHNICAL WRITING AS A CAREER 154 a

WHY NOT BE A TECHNICAL WRITER? 169 j

Technician

CAN I BE A TECHNICIAN? 93 g

TECHNICIAN AND TOMORROW, THE 92 a

Television Repairman

TELEVISION SERVICE & REPAIRMAN (Occupational Guide) 112 u

Textiles

YOUR CAREER IN TEXTILES 65 a

Tire Dealers

GET ROLLING 135 a

Trucker

ON THE ROAD WITH THE TRUCKERS 66 a

OPPORTUNITIES IN THE TRUCKING INDUSTRY 66 b

WHEELS FOR AMERICA'S PROGRESS 66 c

Watch Repairman

CAREERS IN WATCH REPAIRING 68 a

Welder

OPPORTUNITIES IN THE WELDING INDUSTRY 69 a

WELDERS, FLAME CUTTERS, AND RELATED OCCUPATIONS (Occupational Guide) 112 v

Free Films:

Astronaut

ASTRONAUT TRAINING (AD 4) 202 a

Auto Body Repairman

GOOD HAND — GOOD EYE (2400) 181 c

Auto Mechanic

AUTO MECHANIC AND TECHNICIAN 192 a

AUTO MECHANIC: "IT'S FOR YOU" (3841) 201 b

VEHICLE MAINTENANCE STORY, THE 214 c

Aviation Workers

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CEMENT MASON/CONSTRUCTION LABORER 242 i3
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FLOOR COVERING INSTALLERS/GLAZIERS 242 k3
LATHERS/MARBLE SETTERS 242 l3
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TRUCK DRIVER/LOCAL TRUCK DRIVER 242 q3

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TOOL AND DIE MAKER/INSTRUMENT MAKER 242 u3

AIR CONDITIONING MECHANIC/APPLIANCE SERVICEMAN 242 v3

AUTO BODY REPAIRMEN/AUTO MECHANICS 242 w3

BUSINESS MACHINE SERVICEMEN - Part I & II 242 x3

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FARM EQUIPMENT MECHANIC/INDUSTRIAL MACHINERY REPAIRMAN 242 z3

INSTRUMENT REPAIRMAN/MAINTENANCE ELECTRICIAN 242 a4

MILLWRIGHTS/RADIO -T.V. TECHNICIAN 242 b4

TRUCK AND BUS MECHANIC/VENDING MACHINE MECHANIC 242 c4

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SWITCHBOARD OPERATOR 243 f2
TECHNICAL WRITER 243 g2
T. V. AND RADIO SERVICEMAN 243 h2
LOCAL TRUCK DRIVER 243 k2
HEAVY MACHINE OPERATOR 243 l2
CARPENTER 243 r2
ELECTRONIC TECHNICIAN 243 s2
AUTO MECHANIC 243 u2
STATIONARY ENGINEER 243 w2
TOOL AND DIE MAKER 243 x2

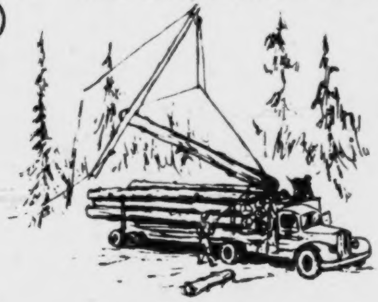
XI. Exploring Outdoor Occupations

Many young people like Outdoor occupations. This is because most of them enjoy being outside in fresh air and sunshine. Outdoor occupations, however, are more than just enjoying the beauty of nature. Many of these occupations demand considerable physical activity. Others are not really outside jobs. Before you make a decision about Outdoor occupations, you should review the occupations included.

The following questions will be answered in this unit:

1. **What occupations are in the Outdoor Group?**
2. **What is the nature of the work in Outdoor occupations?**
3. **How important are Outdoor occupations?**
4. **What education or training is desirable for success in Outdoor occupations?**
5. **What are the earnings and fringe benefits of Outdoor occupations?**
6. **What is the employment outlook for Outdoor occupations?**

① *1. What occupations are in the Outdoor Group?*

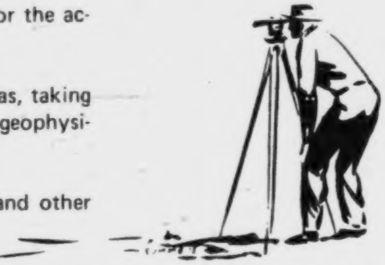


Outdoor occupations usually involve working outside a building. Some of the work, however, is not outside. Occupations in agriculture, mining, oil exploration, and related areas are included. Some of the occupations in this Group are listed below:

Level 1

No occupations are listed.

Level 2



Chief surveyor—head of survey party who is responsible for the accuracy of survey work.
(OEK 260) (DOT 018.188)*

Geodetic surveyor—measures large land sea, or space areas, taking into consideration the curvature of the earth and geophysical conditions.
(OEK 260) (DOT 018.188)

Hydrograph surveyor—makes surveys of harbors, rivers, and other bodies of water.
(OEK 260) (DOT 018.188)

Landscape architect—plans and designs the landscape layout for parks, lawns, industries, schools, homes and highways.
(OEK 187) (DOT 019.081)

Petroleum engineer—supervises the overall planning and drilling of oil wells.
(OEK 208) (DOT 010.081)

Photogram surveyor—applies mathematical techniques to photographs of the earth's surface to measure natural and man-made features of an area.
(OEK 260) (DOT 018.188)

Range manager—conducts research into problems concerning the production of forage for livestock.
(OEK 42) (DOT 040.081)

*Refer to OEK and DOT coding system on page T-2 of introduction to Teacher's Edition.

Topographic surveyor—conducts surveys to determine elevations, depressions, and contours of the earth.
(OEK 260) (DOT 018.188)

Level 3

Computer, seismograph crew—analyzes the statistics obtained from seismograph exploration, such as computing how deep a strata of rock is located beneath the surface of the earth.
(OEK 195) (DOT 010.288)

Farmer—conducts activities necessary to produce plants or animals. (There are many kinds of farmers: cotton farmer, berry farmer, livestock farmer, fish farmer, and the like. Farmers may be found in most all Levels, depending upon the size and productivity of their farms.)
(OEK 43, 45, 48) (DOT 421.181)

Fish culturist—supervises and coordinates the activities of workers engaged in growing fish.
(OEK 149) (DOT 041.168)

Forester—manages and develops forest lands.
(OEK 50) (DOT 040.081)

Highway supervisor—establishes points, grades, and lines needed in the construction of highways.
(OEK 389) (DOT 005.081)

Land surveyor—locates and plots boundaries of land.
(OEK 260) (DOT 018.188)

Petroleum scout—determines facts and informs the company which has employed him regarding oil exploration, leasing, drilling, and production in an assigned area.
(OEK 195) (DOT 010.288)

Level 4

Cable-tool driller—controls the operations of an oil drilling rig and keeps accurate records of the drilling activity.
(OEK 195) (DOT 930.280)

Chainman—measures the distances between points using a surveyor's chain or tape.
(OEK 260) (DOT 018.687)

Forestry technician—assists foresters in managing and caring for forest lands.
(OEK 340) (DOT 441.384)

Instrument man—sets up and adjusts survey equipment.
(OEK 260) (DOT 018.188)

Miner—mines ore, coal, or rock. Uses a variety of blasting, cutting, and shoveling equipment.
(OEK 51, 194) (DOT 939.281)

Ore grader—coordinates the loading, grading, and blending of coal or ore.
(OEK 51, 194) (DOT 939.168)

Petroleum cementer—operates machine which mixes and pumps cement into the space between steel casings and side walls of oil wells to prevent cave-ins.
(OEK 195) (DOT 930.884)

Petroleum draftsman—drafts plans for laying out oil fields, refineries, and pipe-line systems.
(OEK 195) (DOT 017.281)

Petroleum gager—keeps records of the amount of oil flowing into tanks or through pipes.
(OEK 196) (DOT 914.381)

Plane table operator—prepares and revises maps based on the data gathered by means of plane table and alidade.
(OEK 181) (DOT 017.281)

Seismograph crew observer—maintains and operates seismograph equipment.
(OEK 195) (DOT 939.884)

Shaftman—inspects, repairs, and replaces mine shaft parts.
(OEK 51, 194) (DOT 899.884)

Shooter—places and detonates explosive devices used in seismograph exploration.
(OEK 195) (DOT 931.381)

Level 5

Acidizer—forces acid into the bottom of an oil well to increase the flow of oil.
(OEK 195) (DOT 930.782)
Cable-tool dresser—assists an oil well driller and maintains the drilling equipment.
(OEK 195) (DOT 639.781)
Derrickman—works on a small platform high upon an oil drilling rig.
(OEK 195) (DOT 930.782)
Engineman—operates motors and engines which supply power to operate an oil drilling rig.
(OEK 195) (DOT 930.782)
Fisherman—hunts, catches, or traps water animals (includes shellfish).
(OEK 49) (DOT 431.884)
Perforator operator—places and detonates explosives in drill pipes, casings, and tubing to make passages through which oil can flow.
(OEK 195) (DOT 931.782)
Prospecting driller—operates portable drilling rigs used in seismograph operations.
(OEK 195) (DOT 930.782)
Pumper—maintains and operates pumps used in moving oil.
(OEK 196) (DOT 939.782)
Rodman—carries and reads the rod used in surveying elevations, distances, and directions.
(OEK 260) (DOT 018.587)
Rotary driller—operates oil well drilling machine which controls pressure and speed of drill, and is in charge of drilling crew.
(OEK 195) (DOT 930.782)
Sample-taker operator—obtains samples of silt and rock to help geologists determine if oil is present.
(OEK 195) (DOT 931.781)
Treater—analyzes crude oil for the presence of water and sediment.
(OEK 195) (DOT 541.782)

Level 6

Fireman—works at oil rigs which use steam for power.
(OEK 195) (DOT 930.883)
Prospecting drill helper—assists prospecting drillers.
(OEK 195) (DOT 939.884)
Pumper helper—assists pumpers in maintaining and operating pumps and motors.
(OEK 195) (DOT 549.884)
Rig builder—installs drilling rigs.
(OEK 195) (DOT 869.884)
Roughneck—assists rotary floormen who guide the lower end of pipe to and from the well opening, and connects and disconnects drill bits and pipe joints on an oil rig.
(OEK 195) (DOT 869.884)
Roustabout—performs odd jobs as a general oil field laborer.
(OEK 195) (DOT 869.884)
Well puller—removes pipes and casings from oil wells for cleaning, repairing, or salvaging.
(OEK 195) (DOT 930.883)

2. *What is the nature of the work in Outdoor occupations?*

The chief characteristic which distinguishes the occupations in this Group from those in the other Groups is that most of the work is done outdoors. That is, only a small portion of the working hours are usually spent inside buildings.

Production agriculture occupations, commonly known as farming and ranching, are primarily outdoor jobs. The persons employed in such occupations are usually concerned with the growth of either plants or animals, or both. The work may consist of operating large tractors, or rounding up a herd of cattle for vaccination.

② Farming has become a scientific venture in which considerable knowledge of mechanics, chemicals, and biology is necessary. Laborious hand work has largely been replaced by machines. The conditions of work may be hot and dusty, or cold and snowy. Animals must be cared for even in the most undesirable weather. The hours of work may be long, but are not nearly as long as they were a few years ago. Persons employed in outdoor production agriculture occupations enjoy many of the same comforts as persons employed in other occupations.

Landscape architects plan and supervise the establishment of parks, highways, housing projects, school grounds, and residential areas. Their specific activities are concerned with the establishment of scenic areas. Much time may be spent studying a site to determine its features and what sort of grading and planting would most enhance its beauty. Plans are drawn that show how buildings, roads, walks, trees, terraces, shrubs, and other features can be arranged for the greatest beauty and enjoyment.

Surveyors determine the locations and measurements of contours, elevations, points, and lines on the earth's surface. Various types of survey instruments may be used. Instrumentmen, chainmen, and rodmen assist the surveyor in his work. Readings are taken using a survey instrument and rod, or other instruments. The readings are recorded and used in calculating the desired information. Surveyors work under conditions that vary from very hot to cold, and from dusty to muddy. Occasionally surveyors work in dense forests where mosquitoes and other annoying insects are present. Briers and poisonous vines also may be found in their work environment. Frequently, members of a survey party must chop their way through weeds and brush.

The forestry occupations in the Outdoor Group are concerned with managing, developing, protecting, and harvesting forest lands. Foresters spend much time walking through forests, studying and measuring trees, calculating the amount of salable timber present, marking the trees to be cut, inspecting for damage by insects and diseases, and preventing and controlling forest fires. The work is strenuous and often requires persons who are physically able to walk long distances and to use axe and saw. The conditions of the work may be very hot or cold. A forester may get caught without shelter in a rain or snow storm. A forester may come into contact with many kinds of insects and poisonous plants. Also, foresters must frequently possess the skill to operate various kinds of power equipment, such as saws, tractors, sprayers, and tree planters.

Much of the work in the petroleum occupations included in the Outdoor Group requires physically capable men who can put in long hours of rugged activities. Drilling rigs must be erected and, once erected, they usually are operated twenty-four hours per day. Access roads must be constructed to the drilling-rig sites. Supplies must be transported to the sites. Wells, once they are drilled, must also be maintained if they are productive. The working conditions in occupations in the petroleum and natural gas industries may be hot and dusty or may be located on rigs in oceans and lakes. A worker may become covered with dust and grease while on the job. Workers with drilling or construction crews also frequently must travel many miles from home for several days or weeks at a time.

Workers in Oil Drilling Occupations. (Courtesy Standard Oil (N.J.), New York.)

3. How important are Outdoor occupations?

Outdoor occupations are very important in the nation's economy. Outdoor occupations include those that are concerned with the production of food, fiber, and forestry products, petroleum, and natural gas. The well-being of all mankind depends upon these occupations.

The affluent life in America must be attributed to a productive agriculture. One person engaged in production agriculture produces sufficient food or fiber to meet the needs of more than fifty people. Currently, there are slightly less than five million persons employed in production agriculture in the United States. Agricultural occupations other than production agriculture are also quite important. Two persons are employed in agricultural occupations off the farm for every one person employed in agriculture on the farm.

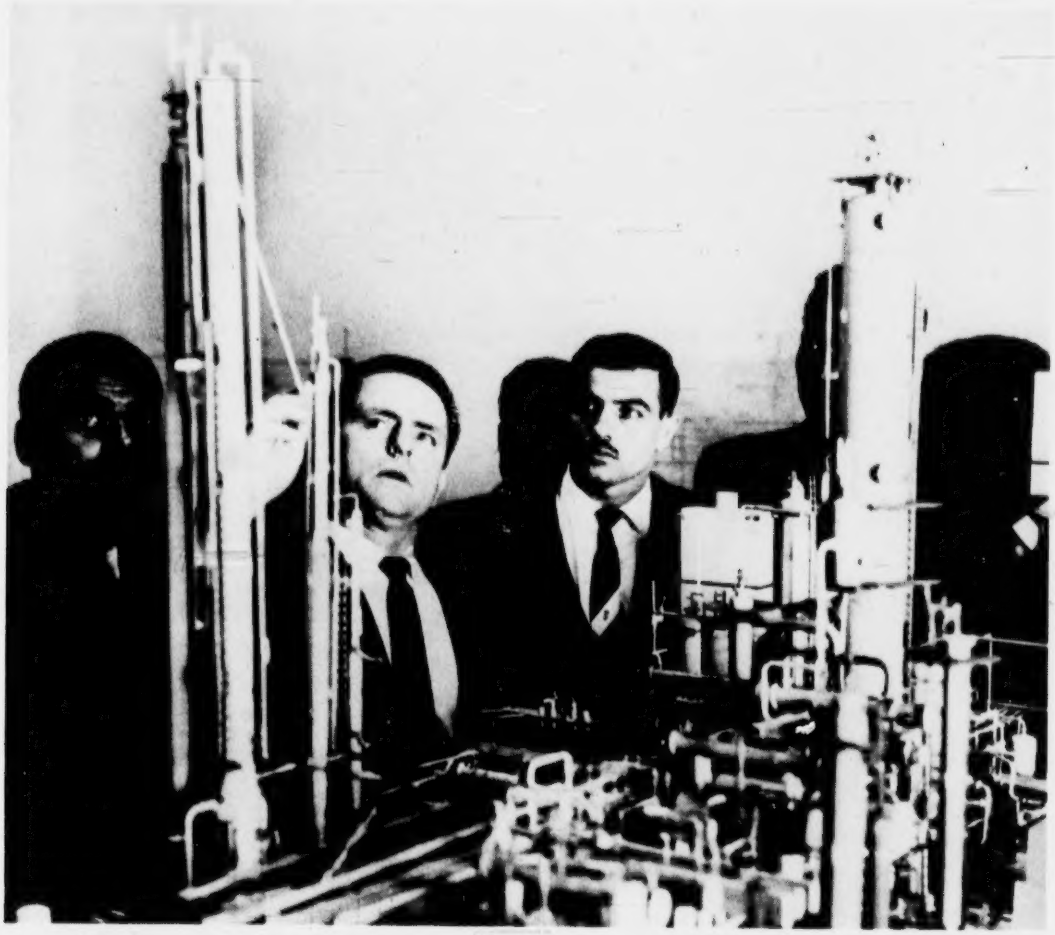
Much of the power used in manufacturing plants and in transportation is produced by petroleum and natural gas industries. In fact, about three-fourths of all energy fuels used in America is supplied by petroleum. A large portion of the heat for homes, schools and factories comes from petroleum or natural gas. A large number of synthetic products are made from petroleum, including certain fertilizers, plastics, and synthetic rubber products. Almost one-half million persons are employed in the petroleum industry in the United States. These persons are involved in exploration and drilling operations, in refineries, and in various types of processing plants. The number of persons employed in producing natural gas and petroleum is close to 280,000.

The other occupations in the Outdoor Group do not have nearly as many employees as do the petroleum and agricultural industries. There are only about 5,000 landscape architects in the United States. A larger number of workers (estimated at 23,000) are employed as foresters. The largest number in the Outdoor Group, except in petroleum and agricultural production, is in surveying. The number of surveyors is close to 45,000. Several thousand assistants, known as rodmen and chainmen, aid surveyors in their work.

A Pilot Flying a Small Plane Dusting a Crop. (Courtesy New Holland Division of Sperry Rand Corporation, New Holland, Pennsylvania.)

4. What education or training is desirable for success in Outdoor occupations?

The amount of education necessary for entering Outdoor occupations varies considerably. Advancement is based upon education and productivity while on the job. It is not necessary to have a high school diploma for low-paying, menial, outdoor jobs. Other jobs require advanced degrees. Many require high school or vocational school diplomas. Surveyors, foresters, and other professional occupations, require at least a bachelor's degree. Most Outdoor occupations in the petroleum and natural gas industries require only a high school diploma. An inexperienced worker frequently receives on-the-job training under the supervision of an experienced foreman or supervisor. On-the-job experience is required for advancement in most of the Outdoor occupations.



A Group of Workers Receiving On-the-Job Instruction. (Courtesy Standard Oil Company (N. J.), New York.)

③ It is always important to take courses in school that will be beneficial in future occupations. For the agricultural occupations in the Outdoor Group, courses in agriculture are beneficial. Many schools offer three or more years of agriculture in the high school grades. Persons contemplating any agricultural occupation, such as in forestry, ornamental horticulture, or mechanics, should take agricultural courses if they are available. Courses in biology and general science also are helpful. Persons contemplating careers in surveying should take as many mathematics courses, especially geometry, as possible in high school. Courses in communications are valuable in all occupations.

5. What are the earnings and fringe benefits of Outdoor occupations?

Earnings in Outdoor occupations vary considerably. Earnings from occupations in production agriculture vary according to the size of the farm, kinds of crops or livestock produced, demand and supply for the crops or livestock produced, and the general price structure.

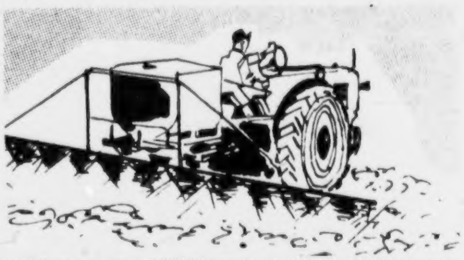
It is logical that managers of large farms would earn more money than managers of smaller farms. The same frequently is true with the other occupations found on farms. Earnings also may vary with the yield of the crops or livestock produced. Earnings usually are greater when a large crop is produced. Years in which crop productivity is low also indicate that income is lower than in other years. Of course, the income from some production agriculture occupations is not based upon production. The people in these occupations receive the same amount of pay regardless of crop production. Fringe benefits in production agriculture occupations frequently include rent-free housing, free utilities, and other benefits. There also may be considerable free time during the winter months.

Occupations in the petroleum and natural gas industries frequently pay well when compared with other Outdoor occupations. Earnings usually range from two- to four-dollars or more per hour. Workers often average slightly more than forty hours of work per week. Fringe benefits frequently include paid vacation and sick leave. Workers on the late night shift may receive 10- to 20-cents per hour more for their work.

Occupations in survey work (surveyors and their assistants) pay on the bases of education, experience, and degree of responsibility. Survey party chiefs may receive up to $10,000 or more per year. Starting salary frequently is a little less. Assistants, such as rodmen and chainmen, do not receive as much pay—frequently minimum wages or only slightly above.

Pay in forestry occupations varies considerably. Foresters with college degrees start at annual salaries of around $6,000 to $8,000. District rangers employed by the government earn $9,000 or more per year. Forestry aids and technicians receive from $5,000 to $7,000 a year. Occasionally, foresters may be furnished rent-free housing. Paid vacations and sick leave are included in the fringe benefits.

6. What is the employment outlook for Outdoor occupations?



④ **The number of persons employed in production agriculture has been declining in recent years.** Such a trend does not mean that farming is declining in importance, but that machinery and technology are replacing human work. This trend indicates that fewer persons are needed but that these few must be well educated and possess a high degree of skill.

Employment in the petroleum and natural gas industries has been gradually declining in recent years. This is primarily due to increased mechanization. Most of the opportunities that will be available will result from the death or retirement of present workers.

The employment opportunities in surveying occupations are expected to be good during the next few years. The rapid development of cities and highways will demand a large number of surveyors, instrumentmen, rodmen, and chainmen.

Employment in certain forestry occupations is expected to increase during the next few years. As the population grows, so does the demand for forestry products, such as paper and lumber. The increased demand for persons with college degrees in forestry will come from both industry and government. The number of persons employed in certain occupations involving forest production will decline due to increased mechanization. More highly skilled persons will be required to operate the machinery used in forest production.

Goal:

Students should become familiar with Outdoor occupations and the interests and abilities which are important for success in these areas. They should also compare their own interests and abilities with those needed for success in various Outdoor occupations.

After the students have read Chapter XI, have them discuss the following questions:

Review Questions:

1. What is an Outdoor occupation? p. 115
2. How has the nature of the work in production agriculture occupations changed? p. 118
3. What high school courses are beneficial in entering certain Outdoor occupations? p. 121
4. What is the trend in employment in Outdoor occupations? p. 122

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Review various occupational information materials. Carefully note all occupations which are in the Outdoor Group. List occupations other than those given in this publication which you believe are in the Outdoor Group.
   Refer to Appendix P and references listed at the end of this chapter.
2. Invite someone who is employed in an Outdoor occupation to visit your class and discuss the nature of his work.
   Refer to Appendix D.
3. Develop a display, bulletin board, or poster that depicts occupations in the Outdoor Group. Cut from magazines or newspapers, pictures which show workers in the Outdoor occupations.
4. Review the want ads of a newspaper. Cut out and place those ads for jobs in the Outdoor Group on a poster or bulletin board. Note where they are found, the rate of pay, and requirements for entry.
   Refer to Appendix I.
5. Review the yellow pages of the local telephone directory. Prepare a list of all businesses which might have Outdoor occupations.
6. Compile a list of all the persons you know who work in Outdoor occupations. Indicate their occupations and employers.
7. Invite the agribusiness teacher in your school to visit your class. Have him discuss Outdoor occupations that are related to agricultural subjects. It would also be well to have him discuss how enrolling in an agribusiness class can help provide the training needed for entering various occupations.
   Refer to Appendix D.
8. Visit the agribusiness department in your school. Have the teacher explain the facilities found there. (It is suggested that arrangements for the visit be made well ahead of the visit.)
9. Investigate FFA. Determine what it is, what it does, and how it functions.

   The Future Farmers of America, known as FFA, is a national organization of students enrolled in vocational agriculture in the public schools.

   More information about FFA may be obtained by writing:

   State Supervisor
   Agricultural Education
   P. O. Box 771
   Jackson, Mississippi 39205

10. As the class members name the local businesses and firms that employ people in Outdoor occupations list them on the chalkboard. Ask if any members of the class know people employed at these places.

11. Select and conduct one or more of the following activities related to agricultural occupations:
    a. Production agriculture
        (1) Visit and tour a nearby farm. Interview the operator or manager to become familiar with the nature of production agriculture. Ask the following questions:
            (a) What are the main sources of income (specific crops and livestock) on the farm?
            (b) How many people work on the farm? How are they paid (hourly, daily, monthly, a share of production, etc.)?
            (c) What are the main problems facing this farm?
            (d) What kind of machinery and equipment are used?

            Refer to Appendix F.
        (2) View one or more of the following motion pictures:
            (a) *Providers of Plenty*
            (b) *Vocations in Agriculture*
            (c) *The Promise of Agriculture*
            (d) *Dynamic Careers in a Rewarding Industry*
            (e) *Food Supply: Its Effect on Civilization*
            (f) *No Limit to Catfish Farming*
            (g) *And So It Grows* (This film also relates to horticulture.)

            All of the above films are available from:

            Film Library, Curriculum Coordinating Unit
            P. O. Drawer DX
            State College, Mississippi 39762
    b. Agricultural mechanics
        (1) Tour the agricultural mechanics shop in your high school. Determine the kind of instruction given and the nature of the activities performed in the shop.
        (2) Visit the agricultural mechanics shop in your school. Perform the following activities:
            (a) Weld two pieces of metal together with an arc welding machine.
            (b) Service the air cleaner on a tractor.
            (c) Service the battery in a tractor.
            (d) Pack the front wheel bearings on a tractor.
        (3) Visit a farm or other agricultural business and observe the operation of agricultural machinery. Note the skills required to operate and maintain the machinery.

            Refer to Appendix E.
        (4) Visit a local agricultural equipment dealer. Tour the facilities and observe the employees at work.

            Refer to Appendix E.
        (5) View the following film:

            Agricultural Engineering, Profession With a Future

            Available from: Film Library, Curriculum Coordinating Unit
            P. O. Drawer DX
            State College, Mississippi 39762

c. Ornamental horticulture (including landscape architecture)

(1) Visit a nearby nursery or flower shop. Arrange for the manager to provide a tour of the facilities.

Refer to Appendix E.

(2) Graft a pecan stock with a selected scion. Consult horticultural books or an agricultural teacher about when and how to do it.

(3) Make a plot plan of your home and the lawn surrounding it, identifying all trees, shrubs, and flowers. Study the plan. Consult references on landscaping to determine how the landscape design can be improved.

(4) Plant tomato seed in a flat in a greenhouse, climatorium, or on the window sill. When the plants have reached the proper size, transplant to peat pots or cut-off milk cartons. Transplant to a garden when five to eight inches high.

(5) Plan and conduct a beautification project on the school grounds.

d. Agricultural supplies

(1) Visit a nearby feed, seed, or fertilizer store. Attempt to determine the answers to the following questions:

(a) What kinds of supplies are sold?
(b) Are any of the products dangerous?
(c) What is the nature of the work?
(d) What kinds of questions do customers ask?

Refer to Appendix E.

e. Agricultural products

(1) Visit a cotton gin during the fall months when it is operating. Note the process involved in ginning the cotton and the mechanical operations of the ginning equipment.

Refer to Appendix E.

(2) Visit a nearby livestock auction. Observe how the cattle are penned, tagged, auctioned, and weighed.

Refer to Appendix E.

(3) Visit a nearby vegetable packing shed or collection point. Identify the kinds of vegetables and determine how they are transported, weighed, graded, and stored.

Refer to Appendix E.

f. Forestry

(1) Invite a forester to visit class and discuss the occupations in forestry.

Refer to Appendix D.

(2) Visit a nearby fire tower. Talk to the person on duty concerning the nature of his work.

(3) Make a trip to a forest that is being harvested. Note how the trees are cut, measured, loaded, and hauled. Identify the kinds of trees being harvested. Talk to one of the workers about the kind of work involved.

Refer to Appendix E.

(4) View one or more of the following films:

(a) *The Paper Forest*

(b) *From Trees to Paper*

(c) *The Forest Produces*

(d) *The Forest Grows*

(e) *From Trees to Lumber*

(f) *Forests and Conservation*

(g) *It's No Picnic*

(h) *It's a Tree Country*

All of the above films are available from:

Film Library, Curriculum Coordinating Unit
P. O. Drawer DX
State College, Mississippi 39762

12. Conduct one or more of the following activities which relate to petroleum occupations:
    a. Arrange to visit a nearby oil well drilling rig. Observe the operation of the rig. If possible, talk to the driller about the drilling procedure and the problems encountered in drilling a well.

       Refer to Appendix E.
    b. Contact an oil refinery and arrange for a field trip. Tour the facilities of the refinery. Note the different occupations and the nature of the work in each occupation. Talk to some of the people who work there.

       Refer to Appendix E.
    c. Arrange for a visit with a seismograph crew while at work. Talk to members of the crew about the work they are doing.

       Refer to Appendix E.
13. Conduct one or more of the following activities which relate to surveying occupations:
    a. Contact a local surveyor and arrange for him to visit class and discuss his occupation. It would be well for him to bring some of his survey instruments and demonstrate their use to the class.

       Refer to Appendix D.
    b. Spend a day with a survey party. Note the nature of the work of each member of the party. Observe how the instruments are read.
    c. Attempt to write a description of the land on which your home is located. The description should include the range, section, and township. Consult a deed to the property or the chancery clerk in your county for help in writing the description and in checking for accuracy.
14. Select one or more occupations in the Outdoor Group in which you are interested. Determine the following information for each occupation: (Your teacher may have prepared some forms for your use.)

OCCUPATIONAL STUDY OUTLINE

A. *Name of Occupation:*

B. *Duties of the Occupation:*

C. *Qualifications:* What are the personal requirements?

D. *Age:* How old must I be to enter the occupation?

E. *Sex:* Is this an occupation in which others of my sex are normally employed?

F. *Specific Physical and Health Requirements:* Am I the correct height to do the work? Are my eyesight and hearing adequate? Am I strong enough?

G. *Interest:* Do I possess this interest? If not, could I develop interest in this type of work?

H. *Abilities:* Do I possess the required abilities? If not, could I acquire the knowledge and skills necessary to do the job?

I. *Personality:* Do I possess the personal qualities necessary for doing this type of work? If not, could I develop these qualities?

J. *Values and Attitudes:* Does anything about this job violate values and attitudes I have about people and work? If so, could I adjust to situations that required that I change my values and attitudes?

K. *Preparation:* What subjects do I need to study? What special training will I need? How long will it take to receive this training? How much will it cost? Can I get this training within the state? Is work experience required for entry into this occupation? What is the method of entry into this occupation?

L. *Working Conditions on the Job:* Is it hazardous work? Is it noisy or dirty? Will I be working in shifts? Will I work indoors or outdoors? Is it hard work? Does the work require being away from home for long periods of time?

M. *Rewards from Work:* How much is the beginning pay? Is there chance for advancement? Will this work experience help me get a better job? Would I be happy doing this type of work?

N. *Employment Outlook:* How many are employed in the occupation at present? Are there employment opportunities in my community or state for this type of work?

O. *Special Requirements (such as certification, licenses, and examinations):*

Additional Occupations:

Additional occupations included in the OEK which may be classified in the Outdoor Group are listed below:

Farm Laborers (OEK 41) (DOT 421.883)
Fruit Growers (OEK 44) (DOT 404.887)
Poultrymen (OEK 47) (DOT 412.181)
Longshoremen and Stevedores (OEK 104) (DOT 911.883)
Lumbermen (OEK 105) (DOT 940 to 949)
Nurserymen and Landscapers (OEK 166) (DOT 406.168)
Tree Experts (OEK 190) (DOT 409.181)
Gardeners and Groundkeepers (OEK 330) (DOT 407.884)

Additional Activities:

1. Have students discuss the following situation:

WHAT WOULD YOU DO?

Sally has always loved being outdoors. Her family lives on a farm, and she has learned to care for animals. Sally is an expert horsewoman.

For several years, Sally has seriously considered majoring in forestry when she goes to college. However, whenever Sally mentions wanting to major in this area, teachers, relatives, and friends try to dissuade her. They warn Sally that forestry is a man's field and that jobs for women would be very scarce.

Sally would like to work for the National Park Service. There are many jobs in the parks that could be done well by women with training. Sally feels that someone must be among the "first" to enter this traditionally man's field.

What would you do?

Students receiving hands-on-experience in surveying.

2. Students may use this form to relate the importance of school subjects to various jobs in the Outdoor category. They should complete the chart with jobs which interest them most.

SCHOOL SUBJECTS AND JOBS*

Fill in Job Blanks	Speech	English	Writing	Math	Science	Social Studies	Art	Music	Shop & Home Ec.	Other	Other

Make code entries on chart.

CODES:	E - Essential	Subject matter is absolutely necessary for success on the job or for completion of educational requirements for the job.
	I - Important	The subject matter is important to success on the job, although it may not always be an absolute requirement.
	U - Useful	The subject is very useful for the job and is usually directly related.
	S - Somewhat Useful	The subject is somewhat useful for the job.

Career Exploration, A Guide for Teachers. (Oklahoma State Department of Vocational and Technical Education, p. 37. Printed with permission.

Suggested Review Survey:

Circle the best answer.

T F 1. All of the work performed by those in Outdoor occupations is done outside.

T F 2. Five persons are employed in agricultural occupations off the farm for every one person employed in agriculture on the farm.

T F 3. A high school diploma is required for entry into all outdoor occupations.

T F 4. Workers in the petroleum and natural gas industries usually earn from two to four dollars or more per hour.

T F 5. Because machinery is so expensive, most of the work done on farms is done by hand.

T F 6. One person engaged in productive agriculture produces sufficient food and fiber to meet the needs of twenty people.

T F 7. Farmers receive about the same income each year regardless of crop productivity.

T F 8. Employment in the petroleum and natural gas industries has been declining in recent years.

T F 9. Employment in all forestry occupations is expected to decrease in the next few years.

T F 10. More persons are employed as surveyors than as any other type of worker in Outdoor occupations.

Answers to suggested review survey: 1, F; 2, F; 3, F; 4, T; 5, F; 6, F; 7, F; 8, T; 9, F; 10, F.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Free Printed Materials:

Agriculture

AGRI OPPORTUNITIES 128 a

AGRICULTURE — MORE THAN FARMING CAREERS UNLIMITED 90 a

HOW YOU CAN BECOME A TREE FARMER 94 a

SHOULD YOU GO INTO AGRICULTURE? 136 m2

Camping

CAREERS IN CAMPING 13 a

Cattleman

YOUNG CATTLEMAN, THE 38 a

Forester

JOB WITH THE FOREST SERVICE, A 166 b

SHOULD YOU BE A FORESTER? 136 o

SO YOU WANT TO BE A FORESTER 25 a

Forestry Industry

CHALLENGE IN WOOD RESEARCH 166 a

CHALLENGE OF THE FOREST, THE 127 a

OPPORTUNITIES UNLIMITED FOR CAREERS OF PRESTIGE AND PROFIT IN THE FOREST PRODUCTS INDUSTRIES 127 b

THIS IS A TREE COUNTRY 26 a

Landscape Architect

DEVELOP A CAREER AS A PROFESSIONAL LANDSCAPE EXPERT 129 a

LANDSCAPE ARCHITECT AND LAND PLANNING, THE 48 a

Miner

PROSPECTING FOR GOLD IN THE UNITED STATES 170 d

Nursery

SELECTED OCCUPATIONS IN NURSERY AND TURFGRASS INDUSTRIES (Job Opportunity Guide) 139 j

Range Manager

CAREER OPPORTUNITIES IN RANGELAND AND RESOURCE MANAGEMENT 62 a

Surveyor

CAREERS IN SURVEYING AND MAPPING 17 a

Free Films:

Agriculture

YOUR CAREER IN AGRICULTURE 208 c

Farmer

FOUR STAR FARMERS OF 1958 195 a

FOUR STAR FARMERS OF 1959 195 b

FOUR STAR FARMERS OF 1960 195 c

FOUR STAR FARMERS OF 1961 195 d

FOUR STAR FARMERS OF 1962 195 e

FOUR STAR FARMERS OF 1963 195 f

FOUR STAR FARMERS OF 1964 195 g

FOUR STAR FARMERS OF 1965 195 h

FOUR STAR FARMERS OF 1966 195 i

FOUR STAR FARMERS OF 1967 195 j

FOUR STAR FARMERS OF 1968 215 a

FOUR STAR FARMERS OF 1969 215 b

NEW HORIZONS ALONG THE MILKY WAY (Dairy Farmer) 209 b

WAY OF LIFE, A 207 a

PART-TIME FARMER 197 a

Sheepman

SHEEPMAN U. S. A. (2465) 181 e

Supplementary Books and Pamphlets:

Career Series

OPPORTUNITIES IN A FORESTRY CAREER 240 j

OPPORTUNITIES IN LANDSCAPE ARCHITECTURE 240 p

OPPORTUNITIES IN THE PETROLEUM INDUSTRY 240 b2

OPPORTUNITIES IN THE POULTRY INDUSTRY 240 e2

Careers in Depth Series

YOUR FUTURE IN AGRICULTURE 236 c

YOUR FUTURE IN FORESTRY 236 f2

YOUR FUTURE IN LANDSCAPE ARCHITECTURE 236 s2

YOUR FUTURE IN THE NURSERY INDUSTRY 236 j3

CONCISE HANDBOOK OF OCCUPATIONS 226 a

COWLES GUIDE TO CAREERS AND PROFESSIONS 219 a

ENCYCLOPEDIA OF CAREERS AND VOCATIONAL GUIDANCE 226 b

HANDBOOK OF JOB FACTS 237 b

OCCUPATIONAL LITERATURE, AN ANNOTATED BIBLIOGRAPHY 225 a

OCCUPATIONS AND CAREERS 230 b

ON THE JOB 226 c

Tapes:

American Occupations Series (Educational Sensory Programming)

- FORESTERS/FORESTRY AIDS 242 f
- RANGE MANAGERS 242 g
- LANDSCAPE ARCHITECTS 242 l2
- SURVEYORS 242 q2
- PETROLEUM OCCUPATIONS — Part I & II 242 h4

XII. Exploring Science Occupations

Science is popular among youth. You probably like to study science. Many other students in your school also like to study it. There are a number of occupations which involve science. The occupations in the Science Group relate to the science classes you take in high school. After you have studied this unit you will be able to determine if you are interested in one of the Science occupations.

The following questions about the occupations in the Science Group will be answered:

1. **What is science? What are the kinds of science?**
2. **What occupations are in the Science Group?**
3. **How important are Science occupations?**
4. **What is the nature of biological science occupations?**
5. **What is the nature of earth science occupations?**
6. **What is the nature of physical science occupations?**
7. **What is the nature of mathematics occupations?**
8. **What is the nature of social science occupations?**

1. What is science? What are the kinds of science?

Science includes many things. In its broadest sense, it is the knowledge of principles or facts. The part of knowledge which relates to the physical world around us is known as *natural science.* That which is concerned with all aspects of human society is *social science.* It is very easy to make the basic distinction between natural and social sciences. Natural science is concerned with plants, animals, the earth, and the forces that act upon each of these. Mathematics is also frequently included as a natural science. Social science is the study of man from his origin to an analysis of his current behavior, including how society functions. Social science includes economics, sociology, politics, civics, and other such sciences.

The Science Group is primarily concerned with occupations in which the people are interested in natural science. A few of the occupations included are in the social sciences. It must be noted that many of the people employed in natural science occupations must also have knowledge and skill in social science.

Natural Science

Natural science is commonly divided into four broad areas–*biological* science, *earth* science, *physical* science, and *mathematics.*

Biological Science.

① **Biological science (commonly called biology) is also known as life science since it is concerned with all living things–plants and animals. The phase of biology dealing with plants is known as botany, whereas that dealing with animals is known as zoology.**

Earth Science.

Earth science can be easily distinguished from biological science. Earth science does not include living plants or animals even though plants and animals are dependent upon the earth for sustenance. **Earth science is concerned with the history of the earth; the composition of the earth's crust, interior, and atmosphere; and the characteristics of its parts.**

Earth science is subdivided, with the subdivisions based upon the part of the earth being studied. Among these subdivisions are geology, geophysics, meterology, and oceanography. Geology is concerned with the structure, composition, and history of the earth's crust, including rocks, minerals, and fossils. Geophysics is a broad overlapping term which includes the study of the earth's size, shape, atmosphere, and bodies of land and water. Highly complex scientific instruments are used to do much of the study. Meterology involves the study of the earth's atmosphere and all of the bodies in outer space. It includes the study and forecasting of weather. Oceanography involves the study of the oceans on the earth's surface. It involves, among other things, the study of tides, currents, waves, water temperature, and the plants and animals that live in the water of the ocean.

Physical Science.

Physical science deals with how the things about us are made, what they are made of, and the forces that act upon these things. Physical science can be divided into several groups including chemistry, biochemistry, physics, and astronomy. Chemistry is concerned with the composition of materials and the reactions they may cause. Biochemistry involves the chemical compounds and processes that take place in plants and animals. Physics is concerned with matter and motion, i.e., why and how things move and the forces that act upon them. Astronomy involves studying the sun, moon, planets, and stars. It is concerned with the size, shape, temperature, and chemical composition of these bodies.

Mathematics.

Mathematics is a science that is fundamental to the other sciences, engineering, and human affairs. It is one of the oldest and most basic sciences. At the present time it is becoming more important because of the use of electronic computers. Mathematics may be divided into two broad classes: (1) applied mathematics, and (2) pure or theoretical mathematics. Applied mathematics is concerned with the development of solutions to problems in the other sciences. Theoretical mathematics involves the development of principles and discovery of relationships among mathematical forms. Mathematics and algebra, geometry, trigonometry, and general mathematics are familiar to most high school pupils.

Social Science

Social science can be conveniently divided into six areas which include anthropology, economics, geography, history, political science, and sociology.

Anthropology.

Anthropology is the study of man from primitive conditions to his present level of civil development. It includes man's origin, physical characteristics, customs, languages, traditions, material possessions, and social and religious beliefs and practices. The major areas of anthropology are archeology, ethnology, and linguistics.

Economics.

Economics is concerned with the production of goods and services which satisfy the wants of man. It involves the establishment of price structure by means of supply and demand.

Geography.

Geography is the science of the earth and of the life that is on it. Geographers attempt to describe the physical characteristics of the earth, including minerals, soils, water, vegetation, climate, and terrain. There are several different kinds of geography. Economic geography deals with the location of economic activities, such as mining, forestry, farming, and manufacturing. Political geography is the study of political forces upon geographic boundaries. Urban geography is a study of cities and community planning. Physical geography is a study of the earth's physical characteristics. Cartography is a special field of geography involving the design and construction of maps.

History.

History is a study of events that have occurred in the past. It involves investigating past events and recording the findings as perceived by the historian. Historians who specialize in identifying, preserving, and making available documentary materials are known as archivists.

Political Science.

Political science is the study of all levels of government—city, county, state, regional, national, and international. It is concerned with what the government is, what it does, how it does it, and why.

Sociology.

Sociology is concerned with the origin and evolution of society, especially of the groups formed by man. These include family, tribal, community, state, religious, social, political, and many other groups.

The Science Group is primarily concerned with occupations related to science as it is commonly studied by pupils enrolled in high school courses of biology, sociology, economics, history, mathematics, general science, chemistry, and physics. It is concerned with those occupations which require a relatively high level of knowledge and skill in science. However, the benefits of science are not limited to this occupational interest Group. A knowledge of science is required in a large number of occupations in the other interest Groups. This Group includes those occupations in which the people employed have a special interest in science. In the social sciences, only the specific occupations in anthropology, geography, and political science are included.

2. *What occupations are in the Science Group?*

The occupations in the Science Group are in Levels just as they are with the other Groups. However, the Levels are indicated according to the kinds of science. A list and brief description of examples of occupations in the Science Group are shown below.

Biological Science

Level 1

Anatomist—disects and examines the various parts of plants and animals in order to study their structure and function.
(OEK 131) (DOT 041.081)*

Biochemist—studies the chemical processes that occur in living organisms, especially the action of foods, drugs, serums, hormones, and other substances.
(OEK 131) (DOT 041.081)

Biophysicist—studies living cells and organisms. Research will determine the electrical and mechanical energy emitted by cells and organisms.
(OEK 75, 131) (DOT 041.081)

Botanist—is concerned with all aspects of plant life including development, physiology, heredity, environment, distribution, structure, and economic value.
(OEK 294) (DOT 041.081)

*Refer to OEK and DOT coding system on page T-2 of introduction to Teacher's Edition.

Embryologist—is concerned with the formation and development of embryos in plants and animals.
(OEK 180, 294) (DOT 041.081)

Geneticist—studies the inheritance and variation that is found in all forms of life—both plant and animal life.
(OEK 180, 294) (DOT 041.081)

Microbiologist—studies, identifies, and grows all forms of bacteria and other microscopic organisms.
(OEK 338) (DOT 041.081)

Osteopath—is commonly known as a physician. The occupation involves examination of the human body and practice of a medical theory which holds that disease is due chiefly to tissues which are improperly arranged.
(OEK 147) (DOT 071.108)

Physician—diagnoses and treats diseases and disorders of the human body.
(OEK 136) (DOT 070.108)

Physiologist—is generally concerned with the structure of cells and organs and the functions of these in plants or animals.
(OEK 180, 294) (DOT 041.081)

Psychologist—is concerned with the mental processes of the human body. (There are several types of psychologists.)
(OEK 137) (DOT 045.108)

Zoologist—studies the origin, classification, diseases, genetics, etc., related to animal life.
(OEK 180) (DOT 041.081)

Level 2

Agronomist—conducts research about growing agricultural crops.
(OEK 211) (DOT 040.081)

Dentist—diagnoses and treats diseases, injuries, and malformations of teeth and gums.
(OEK 68) (DOT 072.108)

Dietitian—specializes in planning and directing the preparation of food and drink to meet nutritional requirements of the human body.
(OEK 71) (DOT 077.168)

Entomologist—investigates insects in relation to plant and animal life.
(OEK 180) (DOT 041.081)

Home economist—promotes, develops, and interprets homemaking procedures conducive to good health and welfare of individuals and families.
(OEK 6) (DOT 096.128)

Horticulturist—studies all aspects of the growing of fruit, vegetables, nuts, flowers, berries, and shrubs.
(OEK 376) (DOT 040.081)

Husbandry specialist—is concerned with all aspects of livestock production.
(OEK 42) (DOT 040.081)

Medical librarian—manages library containing documents on medicine and medical profession.
(OEK 218) (DOT 100.168)

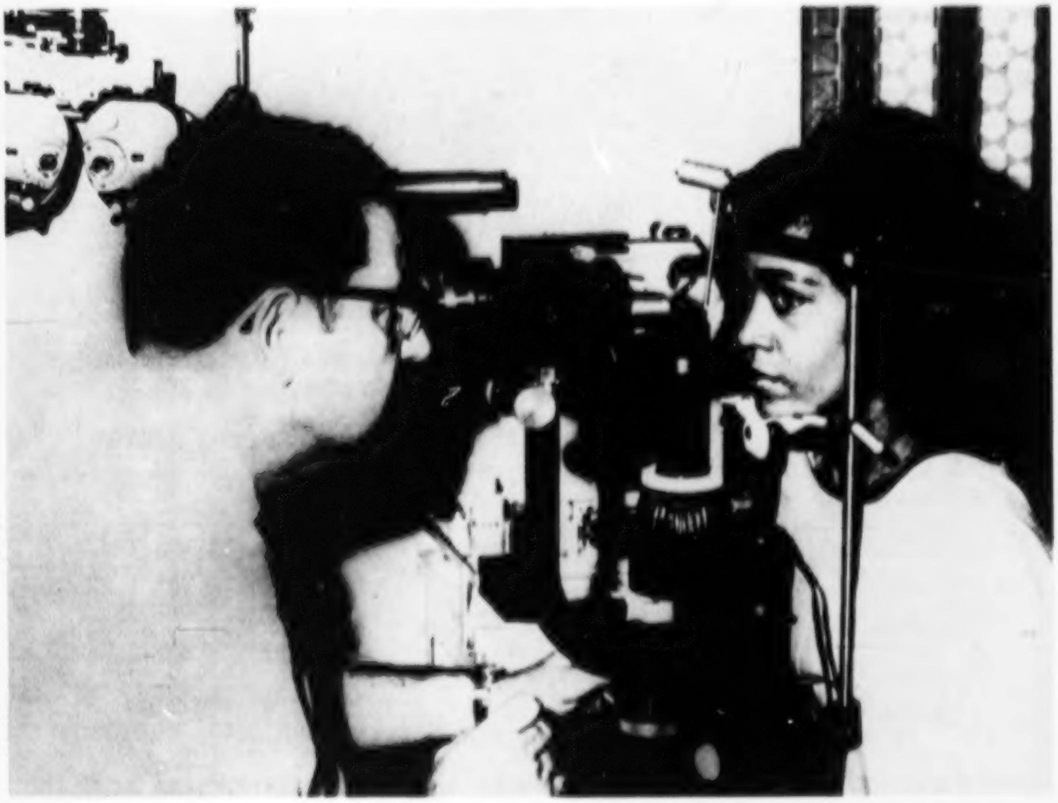
Nurse (RN)—specializes in the care of injured and ill persons; assists the physician.
(OEK 70) (DOT 075.378)

Nutritionist—studies the role of nutrition in health and disease control.
(OEK 71) (DOT 077.128)

Optometrist—examines eyes and prescribes corrective procedures.
(OEK 34) (DOT 079.108)

Pharmacologist—studies effects of drugs and other substances on animal life.
(OEK 380) (DOT 041.081)

Sanitarian—is concerned with environmental health including food processing and serving, air pollution, sewage disposal, etc.
(OEK 248) (DOT 079.118)



An Optometrist at Work. (Courtesy American Optometric Association, Saint Louis, Missouri.)

Level 3

Chiropractor—specializes in adjusting the body to prevent disease and correct abnormalities.
(OEK 288) (DOT 079.108)

County agricultural agent—instructs and advises farmers concerning agricultural problems.
(OEK 92) (DOT 096.128)

County home demonstration agent—instructs and advises women in improvement of rural family life.
(OEK 6, 92) (DOT 096.128)

Dental hygienist—involved in the care of teeth; instructs the general public about the proper care of teeth and mouth.
(OEK 38) (DOT 078.368)

Medical technologist—performs laboratory tests on specimens of the human body to detect disease.
(OEK 32) (DOT 078.381)

Podiatrist—is concerned with diagnosing and treating diseases of the human foot..
(OEK 243) (DOT 079.108)

Level 4

Laboratory technician—performs laboratory work involving the testing and analysis of substances.
(OEK 382) (DOT 078.381)

Levels 5 and 6—no occupations listed.

Earth Science

Level 1

Astrogeologist—applies knowledge of the earth's geology in studying the surface conditions on the moon and other planets.
(OEK 184) (DOT 024.081)

Geochemist—studies the chemical composition of minerals and rocks and changes in them.
(OEK 184) (DOT 024.081)

Geologist—studies the composition, history, and structure of the surface of the earth.
(OEK 184) (DOT 024.081)

Geomorphologist—studies the form of the earth's surface including changes caused by erosion, glaciation, and sedimentation.
(OEK 184) (DOT 024.081)

Geophysicist—is concerned with many things, including the composition and physical aspects of the earth's surface, such as size, shape, and other phenomena.
(OEK 331) (DOT 024.081)

Meteorologist—studies atmospheric conditions and meteorological data to forecast weather.
(OEK 256) (DOT 025.088)

Mineralogist—examines, analyzes, and classifies minerals and precious stones.
(OEK 184) (DOT 024.081)

Oceanographer—studies oceans to observe characteristics, movements, physical properties, and forms of plant and animal life that live there.
(OEK 188) (DOT 024.081)

Paleontologist—investigates fossils as found on or in the earth in an attempt to trace the evolution and development of past life.
(OEK 184) (DOT 024.08!)

Petrologist—studies the composition, structure, and history of rock formations and attempts to determine the changes taking place in the formations.
(OEK 184) (DOT 024.081)

Sedimentologist—studies the processes by which sedimentary rocks are formed.
(OEK 184) (DOT 024.081)

Stratigrapher—analyzes fossils and minerals to determine the distribution and arrangement of sedimentary rock.
(OEK 184) (DOT 024.081)

Level 2

Climatologist—interprets data on past rainfall, sunshine, wind, temperature, and other climatic phenomena in order to predict future climatic conditions.
(OEK 256) (DOT 025.088)

Geodesist—establishes bench marks and other points that can be used in making maps.
(OEK 184) (DOT 024.081)

Geomagnitician—establishes magnetic observations to chart the earth's magnetic field.
(OEK 184) (DOT 024.081)

Hydrologist—studies the development, distribution, and disposition of water on land areas.
(OEK 184) (DOT 024.081)

Tectonophysicist—investigates movement of materials in the earth's crust and attempts to explain the forces causing the movement.
(OEK 184) (DOT 024.081)

Level 3

Soil conservationist—plans and develops practices to conserve the soil and increase soil fertility.
(OEK 220) (DOT 040.081)

Soil scientist—studies characteristics of the soil; makes maps to show the location of known soils.
(OEK 220) (DOT 040.081)

Levels 4, 5, and 6 – no occupations listed.

Physical Science

Level 1

Astrometrist–specializes in measuring celestial bodies.
(OEK 213) (DOT 021.088)

Astronomer–studies the celestial bodies.
(OEK 213) (DOT 021.088)

Astrophysicist–an astronomer who specializes in temperature, amount of light emitted, and chemical composition of celestial bodies.
(OEK 213) (DOT 021.088)

Chemist–investigates the composition and properties of matter.
(OEK 66) (DOT 022.081)

Physicist–observes and analyzes the forms of energy, structure of matter, and relationship between matter and energy.
(OEK 75) (DOT 023.081)

Spectroscopist–examines metals and minerals to determine composition and variation in composition.
(OEK 206) (DOT 011.281)

Level 2

Pharmacist–prepares and dispenses medications as directed by physicians.
(OEK 74) (DOT 074.181)

Synoptic meteorologist–is a weather forecaster.
(OEK 256) (DOT 025.088)

Level 3

X-Ray technician–operates X-Ray equipment (also known as radiography equipment).
(OEK 37) (DOT 078.368)

Level 4

Dispensing optician–prepares eyeglass lenses to prescription specifications, puts lenses in frames, and adjusts frames to customer.
(OEK 86) (DOT 713.251)

Levels 5 and 6 – no occupations listed.

Mathematics

Level 1

Statistician–plans, collects, organizes, interprets, summarizes, and analyzes numerical data.
(OEK 258) (DOT 020.188)

Level 2

Mathematician–conducts research, develops ideas for applying mathematics, and applies mathematical formulas to data.
(OEK 258) (DOT 020.088)

Levels 3, 4, 5, and 6 – no occupations listed.

Anthropology

Level 1

Anthropologist–studies the origin and development of man including the characteristics of present and past civilizations.
(OEK 197) (DOT 055.088)

Archaeologist—attempts to reconstruct past civilizations by digging into the earth to locate the remains of homes, clothing, tools, and other evidences of past life.
(OEK 212) (DOT 055.088)

Ethnologist—studies the way of life of people, especially the more primitive civilizations, by living among them.
(OEK 197) (DOT 055.088)

Linguist—an anthropologist who specializes in languages; he may speak several languages.
(OEK 197) (DOT 055.088)

No other Levels are listed.

Political Science

Level 1

Newspaper reporter—gathers information on current events and writes articles describing these events for publication in newspapers.
(OEK 216) (DOT 132.268)

No other Levels are listed.

3. *How important are Science occupations?*

② Occupations which require special interest in science are very important. **The largest number of persons with occupations in natural science are in the physical sciences. More than 195,000 persons are in occupations in physical science. Of these, 122,000 are in chemistry, 44,000 in physics, 1,100 in astronomy, and 28,500 are in the other physical sciences.**

The biological sciences employ 155,000 persons. Most of these are in biology, agriculture, and medicine. The number employed are: biology—68,000, agricultural scientists—47,000, and medicine—40,000.

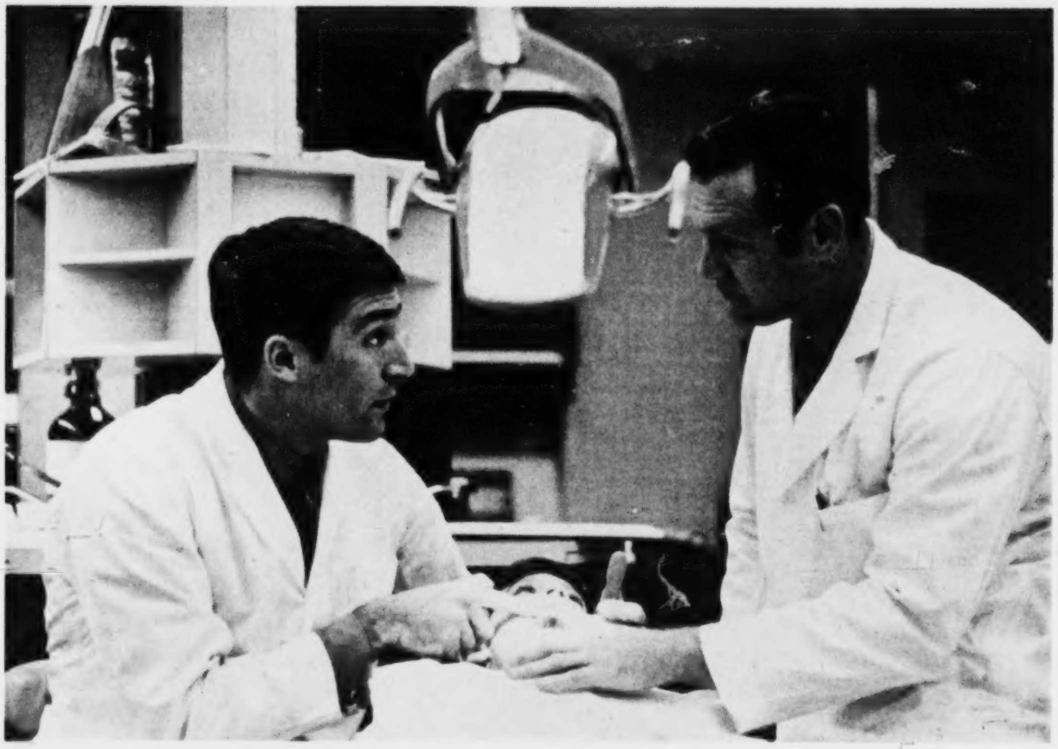
Fewer persons are employed in earth science than in the other natural sciences. A total of 26,500 scientists are employed in the earth sciences. The largest number of these are employed in geology (15,000). Others are employed in geophysics (5,000), meterology (3,500), and oceanography (3,000).

The number of people employed in mathematics-related occupations has been steadily increasing in recent years. There are presently about 57,000 mathematicians in the United States, not including teachers of mathematics. There are also 22,000 employed in statistics and 3,000 employed in other mathematics occupations.

The number of persons employed in the social sciences is considerably less than the number in the natural sciences. About 50,000 people are currently employed in social science. There are about 2,700 employed in anthropology, 9,000 in political science, and 5,000 in sociology. (Some of the occupations in the social sciences that have been listed are discussed in other occupational Groups.)

4. *What is the nature of biological science occupations?*

Biological science is concerned with plants and animals. People employed in biological science occupations are known as biological scientists. Frequently, biological scientists specialize in either plants or animals. Those who specialize in plants are botanists and those specializing in animals are known as zoologists. Some biologists develop specialties with one kind of plant or animal. Biological science may be divided into biology, medicine, and agriculture.



Dentists at Work. (Courtesy American Association of Dental Schools, Chicago, Illinois.)

The work of a biological scientist involves the study of the structure, development, behavior, and life processes of plants and animals. The relationship between plants and animals is also studied. Many biological scientists are engaged in research and development.

The research may be confined to air-conditioned indoor laboratories with very little contact with the outside world, or may take place in strange environments that are relatively unexplored. Biologists may work in conditions similar to those of the hot, steamy Amazon jungle or the snow-covered mountainous regions of the North. Biological work may be carried on in the conditions of your local community. Time may be spent sitting in a laboratory looking through a microscope at tiny plants or animals that could not otherwise be seen. Some biologists may spend considerable time dissecting animals and examining each part for disease or malformation. Others may study genetics and attempt to develop plants and animals with special features.

Most biologists must have a thorough knowledge of mathematical and statistical procedures. They must also be able to read well since quite often many hours are spent reading technical journals and research reports. Research biologists must also write their findings for publication so that what has been learned from their research can be shared with other biologists. A number of biological scientists have combined the careers of teaching and research. Biologists must also frequently assume responsibility in management and administrative work.

Fishery Biologists Injecting Hormones into a Fish. (Courtesy U.S. Department of the Interior, Bureau of Sport Fisheries and Wildlife.)

Location.

Biological scientists are employed in many places and by many employers. Almost half of them are employed by colleges and universities. Those specializing in medicine may be self-employed or employed by medical schools and hospitals. Biological scientists specializing in agricultural science are often employed by agricultural colleges and experiment stations. The United States Department of Agriculture employs about 20,000. Fish and wildlife agencies employ many of those with special interest in this phase of biology. Many biologists find employment with private industry. More than 33,000 biological scientists are employed by industry. Most of these are with chemical manufacturers, food processors and producers, and drug manufacturers.

Occupations for biological scientists are found in all states, but a third of them are found in California, New York, Illinois, Maryland, and Pennsylvania. Both men and women are employed in biological science.

Education Needed for Entry and Advancement.

All biological scientists need to be able to read, speak, and write well. Subjects which will improve communication skills are a must. Prospective biological scientists should obtain a broad education in biology and related sciences, such as chemistry, physics, and mathematics. Those contemplating agricultural science careers should study agriculture.

The biological science occupations included in this category require a relatively high level of knowledge and skill. Many require advanced degrees, such as the Ph.D., in fields of special interest. A bachelor's degree is adequate for many of the beginning jobs but is frequently not sufficient for advancement to higher positions. Students planning to become biological scientists should obtain the broadest education possible prior to entering specialized study.

Employment Outlook.

Demand for biological scientists will be strong in the next few years, especially for those with advanced education and degrees. Persons with bachelors' degrees can be expected to find employment as research assistants or technicians. It has been estimated that around 5,400 biological scientists will be needed each year for the next few years to fill new positions and replace those who leave. One of the areas of greatest demand will be in research, especially research in developing new drugs, chemicals, and processing methods.

5. What is the nature of earth science occupations?

Many earth scientists specialize in a particular aspect of earth science. Such specialization may mean that the occupation involves work which is almost totally outdoors. Other earth science occupations may demand that most of the working time be spent inside. Some of the earth scientists use very complex instruments which require considerable education for operation. The time of many geologists is spent outdoors studying the structure of the earth with the aid of scientific instruments and mapping what is discovered.

Geophysicists study many of the things studied by geologists, except that they are more concerned with the physical characteristics of the earth. Physics, mathematics, chemistry, and other sciences are frequently used. Geophysicists may use seismographs to measure and record the movement of the earth. Many geophysicists are involved in searching for oil and mineral deposits.

Meteorologists study the atmosphere in an attempt to understand ingredients, motion, processes, and influences acting upon the earth. Meteorologists are best known for their work in forecasting the weather. Some attempt to solve problems related to air pollution treatment, "making rain," etc. A number of meteorologists are involved in teaching and research at colleges and universities.

Oceanographers are concerned with the water that covers two-thirds of the earth's surface. The work of oceanographers is concerned with characteristics, movements, physical properties and life in the ocean. They may take the temperature of the water and investigate tides, waves, and currents. Samples, specimens, and data are collected and analyzed. The ocean floor may be investigated. Some oceanographers spend nearly all of their time on ships at sea. Others never board ships.

Location.

Many occupations in earth science are found close around us. They are with private industry or government. Most geologists are employed by private industry, especially by oil companies. The states with the greatest amount of oil production also have the largest number of geologists. Some geologists are placed in foreign countries by their employers for varying periods of time. Geophysicists are also largely employed by private industry, especially mining, oil, and gas companies. Some are employed by exploration and research firms. Most meteorologists are employed by research laboratories and the federal government. Colleges and universities employ persons with interests in all four of the main occupations in earth science.

Education Needed for Entry and Advancement.

All of the professional occupations in earth science require persons to have at least a bachelor's degree with a major in one of the earth sciences. The master's degree is required for most research and teaching positions in geology, geophysics, meteorology, and oceanography. Persons seeking the top positions should obtain a doctor's degree.

Very few colleges provide the necessary courses. Important courses that should be taken by all students contemplating a career in one of the earth science occupations are physics, mathematics, chemistry, biology and any courses in the area of specialization.

The person just beginning employment in an earth science occupation should expect to start as a research or laboratory assistant. Persons with experience in earth science are usually chosen for the administrative positions.

Employment Outlook.

The opportunity for employment in earth science is considered to be favorable during the next few years. Persons with advanced degrees will be in special demand. The greatest increase in demand for earth scientists will probably be in industry with a moderate demand in government jobs. The demand for persons to teach the earth sciences in colleges and universities will increase due to the increased number of students studying earth science.

6. *What is the nature of physical science occupations?*

The major occupations in physical science are in chemistry, biochemistry, physics, and astronomy. Many of the persons employed in occupations in these sciences are concerned with basic research. This basic research is concerned with the properties of matter and energy.

Chemists are concerned with the composition of matter. To determine the characteristics of matter, chemists frequently spend many hours in a laboratory observing reactions that occur in test tubes, keeping careful records of what they observe, and experimenting to see what will occur when certain chemicals are mixed. The work is often slow and meticulous. The environment of a chemist's laboratory is frequently filled with complicated apparatus and has a pungent odor of chemicals. Chemists also frequently write papers and give lectures on what they have observed.

The work of biochemists is similar to that of chemists except that biochemists are concerned with the chemical processes that occur in relation to plant and animal life. Biochemists analyze the processes that occur in plants and animals and how these processes are affected by food, drugs, and other substances. This study is especially important in medicine, nutrition, and agriculture. In the medical field, biochemists investigate the causes and cure of disease. In nutrition they study the nutrients necessary for good health and the effects of deficiencies of certain nutrients. In the field of agriculture, biochemists investigate soils, fertilizers, and plants for improvement and relationship to each other.

The work of physicists is important in many aspects of our society. About one-half of all the work of physicists is involved in research aimed at helping man understand the physical world around him. They are interested in the interaction between matter and energy. Mathematics is used considerably in the analysis of interactions. Physicists spend much of their time working in laboratories with scientific equipment. They have to design and construct much of the new and specialized equipment they use. Physicists also teach in colleges and universities.

Astronomers study the stars, sun, moon, and planets in an attempt to determine sizes, shapes, surface temperatures, chemical composition, and movements of these bodies. Complex instruments are used in the study. Astronomers usually teach, do research, or perform a combination of teaching and research. Considerable time may be spent in an observatory looking through a telescope. Various photographic and light-measuring devices may be attached to the telescope.

Location.

Most of the persons with interests in physical science are employed near heavily populated areas, such as Chicago, New York, and Philadelphia. Two-thirds of the chemists are employed by private industry engaged in the manufacture of food, petroleum products, paper, electrical equipment, and metal products. Others are employed by chemical, drug, food, and petroleum products companies; research laboratories; colleges and universities; and federal government agencies.

Biochemists are employed by private industry, especially electrical equipment industry. Others are employed by machinery, engineering, architectural, chemical, aerospace, and instrument industries. A large number of physicists are employed by colleges and universities in teaching and research. Government agencies employ a number of physicists.

The number of astronomers is small (1,100 in the United States); therefore, the opportunities for employment are limited. Astronomers are employed by private industry and by the federal government. A few are employed by colleges and universities.

Most of the opportunities for employment in physical science occupations are in the more heavily populated states. However, there are a few occupations for persons interested in physical science in Mississippi.

Education Needed for Entry and Advancement.

High school students interested in physical science occupations should take mathematics, chemistry, physics, and biology courses in high school. All courses prerequisite to entering a college curriculum in physical science should be taken. A high school student interested in majoring in one of the physical sciences in college should select an appropriate college and study the curriculum in which he wishes to enroll.

③ The minimum education for beginning employment in physical science occupations is a bachelor's degree. For advancement to higher positions, master's and doctor's degrees are essential. Persons with the widest experiences are usually the first to be advanced. Those successful in physical science, as in many other occupations, must keep their knowledge up-to-date by reading technical journals and attending conferences in which physical science subjects are discussed.

Employment Outlook.

The employment outlook for occupations in physical sciences is very good for the next few years. Persons with advanced degrees will be in greatest demand. Growth in many of the physical science occupations is occurring at a very rapid rate.

7. *What is the nature of mathematics occupations?*

Mathematicians work in a variety of activities. Some are engaged in theoretical work involving the development and discovery of new mathematical principles and relationships. Others are engaged in attempting to solve problems in the physical, earth, biological, and social sciences. Most of the work is performed indoors at a desk, calculator, or electronic computer. Many times mathematicians attempt to answer problems proposed by engineers and other scientists. For example, a mathematician may be called upon to compute the size of a steel beam necessary in the construction of a bridge or building. To solve this problem, the mathematician must compute the load-bearing capacity of the steel and how much load any given steel beam in a bridge must carry. Other mathematicians are engaged in teaching, quality control, management, and administration.

Location.

About one-half of the 57,000 mathematicians in the United States are employed in industries such as manufacturers of electrical equipment, aerospace equipment, and machinery. A few work for the government. More than half of the mathematicians are found in a few states: Maryland, New York, Illinois, Pennsylvania, Massachusetts, and New Jersey.

Education Needed for Entry and Advancement.

A high school student contemplating entering a mathematics occupation and majoring in mathematics in college should take as many mathematics courses as possible while in high school. It is also a good idea to take chemistry, physics, biology, or accounting courses which deal with the practical aspects of mathematics.

The minimum education required for entering an occupation in mathematics is a bachelor's degree in mathematics. A curriculum leading to a degree in mathematics is offered by many colleges and universities. More and more jobs require mathematicians with degrees beyond the bachelor's degree. Master's and doctor's degrees are necessary for most advancement and salary increases.

Employment Outlook.

Mathematics grows as scientific research grows. The indications now are that scientific research will grow rapidly in the immediate years ahead. Very rapid growth in the number of persons employed in mathematics is expected during the next few years. The education required for occupations in mathematics is also an excellent foundation for a number of other occupations.

8. What is the nature of social science occupations?

The social science occupations included in the Science Group are in anthropology, geography, and political science.

The nature of an anthropologist's work is easily stated. It is the study of man from his origin to his present status. Some anthropologists spend considerable time digging into the earth searching for evidence of past civilizations. These are known as archeologists. They examine skeleton remains, relics, and artifacts. Other anthropologists attempt to study the ways of life of primitive tribes. These are known as ethnologists. Ethnologists compare the cultures of various groups of people and study the sounds and structure of their language. Those who study language are frequently known as linguists. Still another kind of anthropologist is the physical anthropologist. He is interested in studying the human body and how it evolved into its present form. Attention is also given to the differences among races and groups of mankind.

Political scientists study government at all levels and in all countries. They frequently specialize in public administration, American government, or in the relationship between the governments of various countries of the world, i.e., international relations. Many political scientists teach either part-time or full-time. Much of their work is in research concerning legislation, public opinion, and political trends.

Location.

Most anthropologists and political scientists are employed by colleges and universities. A sizable number are employed by the federal government. A few are with industry and nonprofit organizations. Most of these occupations are found near the larger cities, especially Washington, D.C., with its many government jobs. Some are sent to foreign countries on special assignments.

Education Needed for Entry and Advancement.

The minimum education required for entering anthropology or political science occupations is a bachelor's degree. The doctor's degree is required for most permanent occupations in anthropology. It is very important that an appropriate college be selected. Graduate work is beneficial, and frequently required for a number of the jobs in geography and political science. Advancement to the top positions is based upon education and experience.

Employment Outlook.

The employment prospects for anthropologists and political scientists is expected to increase rapidly over the next few years. The outlook for geographers is favorable but is not as good as the outlook in anthropology and political science.

Goal:

Students should become familiar with Science occupations and the interests and abilities which are important for success in these areas. They should also compare their own interests and abilities with those needed for success in various Science occupations.

After the students have read Chapter XII, have them discuss the following questions:

Review Questions:

1. What is the main interest of the following: pp. 127-128
   - biological science
   - earth science
   - physical science
   - anthropology
2. Which Science occupations have the largest number of workers? p. 134
3. In general, what is the minimum amount of education required for entering Science occupations? p. 139

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Select one or more occupations in the Science Group in which you are interested. Determine the following information for each occupation: (Your teacher may have prepared some forms for your use.)

OCCUPATIONAL STUDY OUTLINE

A. *Name of Occupation:*

B. *Duties of the Occupation:*

C. *Qualifications:* What are the personal requirements?

D. *Age:* How old must I be to enter the occupation?

E. *Sex:* Is this an occupation in which others of my sex are normally employed?

F. *Specific Physical and Health Requirements:* Am I the correct height to do the work? Are my eyesight and hearing adequate? Am I strong enough?

G. *Interest:* Do I possess this interest? If not, could I develop interest in this type of work?

H. *Abilities:* Do I possess the required abilities? If not, could I acquire the knowledge and skills necessary to do the job?

I. *Personality:* Do I possess the personal qualities necessary for doing this type of work? If not, could I develop these qualities?

J. *Values and Attitudes:* Does anything about this job violate values and attitudes I have about people and work? If so, could I adjust to situations that required that I change my values and attitudes?

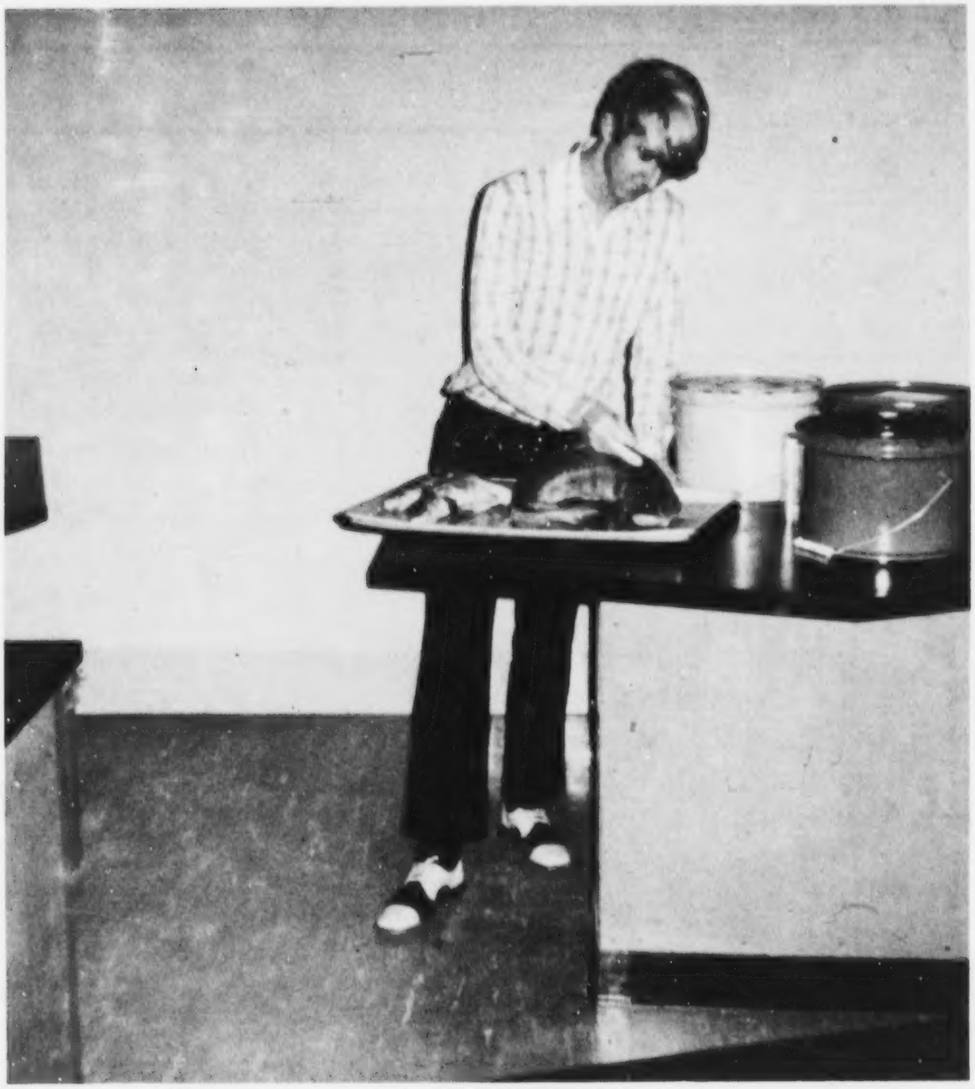
K. *Preparation:* What subjects do I need to study? What special training will I need? How long will it take to receive this training? How much will it cost? Can I get this training within the state? Is work experience required for entry into this occupation? What is the method of entry into this occupation?

L. *Working Conditions on the Job:* Is it hazardous work? Is it noisy or dirty? Will I be working in shifts? Will I work indoors or outdoors? Is it hard work? Does the work require being away from home for long periods of time?

M. *Rewards from Work:* How much is the beginning pay? Is there chance for advancement? Will this work experience help me get a better job? Would I be happy doing this type of work?

N. *Employment Outlook:* How many are employed in the occupation at present? Are there employment opportunities in my community or state for this type of work?

O. *Special Requirements (such as certification, licenses, and examinations):*



Students receiving firsthand knowledge of work done by biologists.

2. Review various occupational information materials. Carefully note all occupations which are in the Science Group. List occupations other than those given in this publication which you believe are in the Science Group.
   Refer to Appendix P and references listed at the end of this chapter.
3. Invite someone who is employed in a Science occupation to visit your class and discuss the nature of his work.
   Refer to Appendix D.
4. Develop a display, bulletin board, or poster depicting occupations in the Science Group. Cut pictures from magazines or newspapers which show workers in Science occupations.
5. Review the want ads of a newspaper. Cut out and place those ads for jobs in the Science Group on a poster or bulletin board. Note where they are found, the rate of pay, and requirements for entry.
   Refer to Appendix I.
6. Review the yellow pages of the local telephone directory. Make a list of all businesses which might have Science occupations.
7. Prepare a list of all the persons you know who work in Science occupations. Also indicate their occupations and employers.
8. Invite the biology, chemistry, or physics teacher in your school to visit class. Have him discuss Science occupations. It would also be well to have him discuss how enrolling in a science class can help provide the training needed for entering various occupations.
   Refer to Appendix D.
9. Visit the science department in your school. Have the teacher explain the facilities found there. (It is suggested that arrangements for the visit be made well ahead of the visit.)
10. As the class members name the local businesses and firms that employ people in Science occupations, list them on the chalkboard.
11. Select and conduct one or more of the following activities which relate to biological science:
    a. Structure and functions of the parts of plants. Do the following in the order listed:
       (1) Select a common plant (preferably one such as a cotton plant, zinnia, or marigold).
       (2) Carefully pull the selected plant from the soil, being careful not to damage any of its parts.
       (3) Divide the plant into its major parts—leaves, stems, roots, flowers, seed pods, etc.
       (4) Attach each part with tape, string, or wire, to a sheet of poster paper.
       (5) Label each part.
       (6) Place a description of the functions of each part on the poster paper beneath the names. (The functions of plant parts can be found in general science, biology, and botany books.)
    b. Growth and development of plants. Do the following steps in the order listed:
       (1) Secure two 6-inch flower pots.
       (2) Place fertile potting soil in each pot.
       (3) Plant several corn grains in one pot.
       (4) Plant several lima bean seed in the other pot.
       (5) Water the soil (Caution: DO NOT over-water).
       (6) Place the pots in a sunny location such as a window sill.
       (7) Check the flower pots daily.
       (8) Let seedlings grow for 3 days following emergence from the soil.

(9) Prepare a list of the differences in the way the plants grow.

(10) Use a general science, biology, or botany book to locate the scientific names and meaning of the difference in the growth and development characteristics that were observed.

(11) Write a one-page summary of your procedure and what you observed, using terminology that you think a botanist would use in writing a technical report.

c. Effect of light on plants. Perform the following steps:

(1) Secure a potted plant.

(2) Place the plant in a dark room where sunlight cannot reach it.

(3) Leave the plant in the dark room 4-5 days.

(4) Remove the plant from the dark room and observe.

(5) Refer to general science, biology, and botany books to help interpret what happened to the plant.

(6) Write a one-page summary of the changes in the plant that you observed and why the changes occurred. (Use the terminology that a scientist would use in writing a technical report.)

d. Anatomy. Make a trip to a diagnostic laboratory and observe the performance of a post-mortem on a large animal. Note the kind of animal, the procedure used, the appearance of the internal organs, and the indication that disease was present. Also, have the laboratory worker, usually a veterinarian, sever the intestines. Look closely for the presence of worms and foreign objects such as wire or nails. Write a one-page report about what you observed. (It may be possible that these observations could be made in a veterinary clinic.)

Refer to Appendix E.

e. Contact a medical or dental clinic and arrange for a tour of the facilities. Have someone familiar with the clinic explain how the clinic functions and is organized.

Refer to Appendix E.

f. Contact an agricultural experiment station and arrange for a tour of the station. Have someone knowledgeable in the operation of the experiment station explain the experiments currently in progress.

Refer to Appendix E.

g. Entomology. Make an insect collection by following these steps:

(1) Collect ten of the insects with the most economic importance in your home area.

(2) Mount and label the insects (give common and scientific names) on a sheet of poster paper.

(3) Below the name of each insect list the beneficial effects and harmful effects of each insect.

(4) Describe how it feeds and on what it feeds.

(5) Briefly describe its life cycle. (Use biology and entomology books as references in this activity.)

h. Nutrition. Perform the following project:

(1) Study the nutrients essential in the diet of man.

(2) Prepare a list of each of these nutrients and include the foods in which they may be found.

(3) Plan the meals for one adult person, or a family, for one week, being sure that all nutrient needs are met.

(4) If possible, have the menu plans you made put into practice with your family.

(5) Develop a chart on poster paper showing the foods that you plan to serve each meal.

i. Dietetics. Perform the following activities:

(1) Schedule a conference with your school's lunchroom dietician.
Refer to Appendix D.

(2) During the conference determine answers to the following questions:

Who establishes the menu of food to be served?
What are the criteria for determining which foods will be served?
What legal and sanitation regulations must be observed?
What is the source of the foods that are served?

(3) In a report, write about your conference with the dietician.

j. Psychology and Psychiatry.

(1) Arrange for a conference with the school psychologist or have a psychologist or psychiatrist visit the class and explain the occupations in psychology and psychiatry.
Refer to Appendix D.

(2) Read a book by one of the following persons and write a short report: Alfred Adler, Sigmund Freud, John B. Watson, B.F. Skinner, E.R. Guthrie, Elizabeth Hurlock, or David P. Ausubel.

(3) Visit an institution established for persons who are mentally ill
Refer to Appendix E.

12. Select and conduct one or more of the following activities which relate to earth science:

a. Meteorology.

(1) Collect weather maps for a period of one week as published in newspapers. Write a summary of what the maps showed, the forecasts that were made, and what the weather in your community was actually like.

(2) Set up a thermometer and take readings each day on a regular schedule. Place the thermometer so that it is outside but in the shade at all times. It is suggested that a chart be developed for recording the temperature at least three times daily for a period of one to two weeks. The chart could be set up as a table to aid in keeping the records.

Date	Time		Temperature
	a.m.	p.m.	

(3) Set up a rain gauge and keep an accurate record of precipitation for a period of one month.

(4) Keep a record of barometric pressure using a barometer and a procedure similar to that given above for temperature records.

(5) Visit a local weather station and interview the meteorologist regarding his work.

b. Geology. Perform one or more of the following:

(1) Make a collection of the rocks from your community. Identify the minerals present in each rock. Place the rocks and a description of the minerals which they contain on display in your classroom. (Refer to a general science book and books on minerals.)

(2) If there is an oil well being drilled nearby, visit it and inquire about the problems encountered in drilling a well. Specifically, discuss the kinds of earth formations that must be drilled through. Write a one-page summary of what the earth's structure beneath the well is apparently like.

c. Soils.

(1) Contact the local Soil Conservation Service and arrange for a staff member to visit your school and explain what a soil conservationist does.
Refer to Appendix D.

(2) Collect samples of sand, clay, and silt. Determine how these compare with the soil normally found in your community. Make a display in which you describe the water-holding capacity, tilling, and productivity of soils high in sand, clay, and silt. List the crops which will grow best on each kind of soil.

(3) Collect a soil sample from the lawn or garden at your home or from the school ground. Use a soil test kit to analyze the soil; determine the kind of fertilizer that should be added for plants growing where you took the sample. (Obtain information on how to take a soil sample from a vocational agriculture teacher, county agent, or soil conservation service worker.)

13. Select and conduct one or more of the following activities which relate to physical science.

a. Astronomy.

(1) Construct a time-zone map of the United States showing the five time zones as found in the continental United States. Indicate what the time in each of the zones would be if it were 8:00 in your home town. (Consult general science or geography books if necessary.)

(2) Use a globe and a light bulb to show how the rotation of the earth causes night and day.

(a) Darken the room.

(b) Place a small light bulb in the center of the table.

(c) Turn the light on.

(d) Hold the globe so that the light shines directly on the equator with the axis of the globe perpendicular to the top of the table. Rotate the globe on its axis. The part of the globe that is lighted by the bulb is the part that would be lighted by the sun. Note how the daylight is distributed.

(e) Tilt the globe so that its axis is inclined at an angle of 23½ degrees. (This is the true position of the earth relative to the sun.) Rotate the globe. How does tilting the globe affect the distribution of light? How does tilting the globe affect seasonal changes in the weather? Refer to general science books if necessary.

(f) Write a one-page technical report of your procedure and observations.

(3) View one or more of the following motion pictures:

The Earth: Its Movements
The Earth: Its Atmosphere
The Solar System
Space Science: Comets, Meteors, and Planetoids
Space Science: The Planets
Space Science: Studying the Stars
Space Science: Man-Made Satellites

All of the above films are available from: Coronet Films
Chicago, Illinois 60601

b. Physics.

(1) Arrange for a physicist employed by a nearby college, university, industry, or government agency to visit class and discuss "What it is like to be a physicist." Refer to Appendix D.

(2) Arrange for a tour of the physics laboratory of a nearby college, university, industry or government agency. Refer to Appendix E.

(3) It is necessary for a physicist to measure length, mass or weight, and time precisely. Also, it is often necessary to convert from one system to another of measurement. As an exercise in measurement and conversion, perform the following (consult a physics book if necessary):

(a) Measure the length and width of this page in inches.

(b) Convert the measurements obtained in inches to centimeters. (one inch=2.54 centimeters)

(c) Compute the number of square centimeters on the surface of this page.

(4) A floating body displaces an amount of liquid in which it is floating equivalent to its own weight. Conduct an experiment to prove that this is true.

(a) Balance an overflow can on platform scales.

(b) Fill the can with water until it is overflowing.

(c) After the overflow can has been filled and has finished overflowing, place a dish or beaker to catch additional water that may overflow if more water is poured into the overflow can.

(d) Place a small block of wood in the water in the overflow can. The amount of water that was forced out is equal to the weight of the block of wood.

(e) Weigh the block of wood and the water that was forced out to see that they are equal.

c. Chemistry.

(1) Use a soil testing kit and take a soil sample and conduct a chemical analysis to determine the fertilizer needed and pH of the soil.

(2) Arrange for a visit to a nearby chemical laboratory located in a college, university, industry, or government agency. Discuss the laboratory and the nature of the work that is performed there.

Refer to Appendix E.

(3) A compound is a pure substance which may be broken down into two or more simpler substances, known as elements. More than one hundred elements have been identified. Develop a list of these elements, the symbols for them, and the compounds in which the elements are commonly found. (Consult a chemistry or general science book.)

(4) Oxygen is necessary for a flame (fire) to exist. Perform the following experiment to illustrate how oxygen supports combustion:

(a) Place a small candle upright on a table top.

(b) Light the candle.

(c) Fill a quart fruit jar with oxygen. (If this is done in a shop, be sure that oxygen alone is being obtained.)

(d) Place a cover over the fruit jar to prevent the loss of oxygen.

(e) Place the fruit jar upside down over the lighted candle. Note what happens.

(f) Write a one-page summary of your procedure and what you observed. (Refer to chemistry or general science books for assistance in explaining what happened.)

14. Select and conduct one or more of the following activities which relate to mathematics:

a. Invite a mathematician from a nearby college, university, or business to visit class and discuss the occupations available in mathematics.

Refer to Appendix D.

b. Tour a business which makes use of electronic computers. Have a representative of the business explain the operation of the computers and the education necessary to become proficient in using such equipment.

c. Become familiar with the operation of a calculating machine and an electronic calculator. Perform these manipulations:

(1) Add.

(2) Subtract.

(3) Multiply.

(4) Divide.

(5) Accumulate.

(6) Multiply using a constant (or memory recall).

(7) Set decimal position.

15. Select and conduct one or more of the following which relate to social science.

a. Anthropology.

(1) Visit a museum in which fossils, artifacts, and relics are on display. Have a tour-guide show you around.

(2) Read one or more of the following:

Folkways by William Graham Sumner
Maori Youth by David P. Ausubel
Elmtown's Youth by August Hollingshead
Children of Brasstown by Celia B. Stendler

b. Political Science.

(1) Arrange for a tour of a local newspaper's printing facilities. Talk with various staff members. Also discuss the various news wire services.
Refer to Appendix E.

(2) Write an article for your school newspaper, or local community newspaper. Contact the editor of the paper for suggestions as to style and length of article. Have your article published.

Additional Occupations:

Additional occupations included in the OEK which may be classified in the Science Group are listed below:

Funeral Directors and Embalmers (OEK 132) (DOT 187.168)
Veterinarians (OEK 139) (DOT 073.108)
Medical Record Librarian (OEK 145) (DOT 100.388)
Ophtalmologists (OEK 146) (DOT 070.108)
Statistical Workers (OEK 182) (DOT 216.388)
Dairy Technologists (OEK 214) (DOT 040.081)
Food Technologists (OEK 215)
Industrial Hygienists (OEK 217) (DOT 079.188)
Anesthetists (OEK 241) (DOT 070.108)
Sanitary Engineers (OEK 250) (DOT 005.081)
Dental Assistants (OEK 272) (DOT 079.378)
Dental Laboratory Technicians (OEK 273) (DOT 712.381)
Medical Assistants (OEK 290) (DOT 079.368)
Chemical Technicians (OEK 318) (DOT 022)
Pediatricians (OEK 375) (DOT 070.108)
Radiologists (OEK 379) (DOT 070.108)
Pathologists (OEK 386) (DOT 070.081)
Inhalation Therapists (OEK 388) (DOT 079.368)
Public Health Nurses (OEK 394) (DOT 075.128)

Additional Activities:

1. Have students discuss the following situation:

WHAT WOULD YOU DO?

Ray has always made good grades in math and science. His highest interests seem to be in these areas according to an inventory he took at school.

Ray's teachers have encouraged him to go to college. Ray would like very much to go to college and continue in medical school. Ray realizes that to finance the education required for a medical degree is very expensive. His family would be pleased if he could attend college, but are not able to help in any way.

Ray would like to find out about various kinds of financial help. If you were Ray, what would you do?

2. Students may use this form to relate the importance of school subjects to various jobs in the Science category. They should complete the chart with jobs which interest them most.

SCHOOL SUBJECTS AND JOBS*

Fill in Job Blanks	Speech	English	Writing	Math	Science	Social Studies	Art	Music	Shop & Home Ec.	Other	Other

Make code entries on chart.

CODES:	E - Essential	Subject matter is absolutely necessary for success on the job or for completion of educational requirements for the job.
	I - Important	The subject matter is important to success on the job, although it may not always be an absolute requirement.
	U - Useful	The subject is very useful for the job and is usually directly related.
	S - Somewhat Useful	The subject is somewhat useful for the job.

***Career Exploration, A Guide for Teachers.** (Oklahoma State Department of Vocational and Technical Education, p. 37. Printed with permission.

Suggested Review Survey:

Match the answers on the right (letters) with the corresponding items (numbers) on the left. Some of the answers may be used more than once.

_____ 1. Economist
_____ 2. County Agricultural Agent
_____ 3. Home Economist
_____ 4. Pharmacist
_____ 5. Chemist
_____ 6. Soil Conservationist
_____ 7. Nurse
_____ 8. Geologist
_____ 9. Historian
_____ 10. Laboratory Technician

A. Mathematics
B. Biological Science
C. Earth Science
D. Physical Science
E. Social Science

Answers to suggested review survey: 1, E; 2, B; 3, B; 4, D; 5, D; 6, C; 7, B; 8, C; 9, E; 10, B.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Free Printed Materials:

Agronomist

CAREERS IN AGRONOMY — CROP SCIENCE AND SOIL SCIENCE 54 a

Anthropologist

WHAT IS ANTHROPOLOGY? 5 a

Archaeologist

ARCHAEOLOGY AS A CAREER 71 a

Astrogeologist

ASTROGEOLOGY 170 a

Astronomer

ASTRONOMY AND YOU 84 a

CAREER IN ASTRONOMY, A 8 a

Atomic Energy

CAREERS IN ATOMIC ENERGY 161 a

Biologist

CAREERS IN BIOLOGY 31 a

SHOULD YOU BE A BIOLOGIST? 136 f

Botanist

BOTANY AS A PROFESSION 76 a

Chemist

BRIGHT FUTURE AS A CHEMICAL TECHNICIAN 107 a

CAREER AHEAD IN THE CHEMICAL INDUSTRY 107 b

CHEMISTRY AND YOUR CAREER 15 a

IS CHEMICAL TECHNOLOGY THE CAREER FOR YOU? 15 b

SHOULD YOU BE A CHEMIST? 136 g

YOUR CAREER AS A CHEMIST 79 a

Chiropractor

PLANNING A CAREER IN CHIROPRACTIC 16 a

Conservationist

CAREERS IN CONSERVATION 155a

  - CAREERS IN WILDLIFE CONSERVATION 98 a
  - YOU CAN BE A CONSERVATIONIST 25 b
- Dental Assisting
  - DENTAL ASSISTING 19 a
- Dental Hygienist
  - CAREERS IN DENTAL HYGIENE 20 a
- Dentist
  - CAREERS IN DENTISTRY 18 a
  - DENTISTRY, A CAREER FOR WOMEN 18 b
  - SHOULD YOU BE A DENTIST? 136 i
- Dietitian
  - DIETETIC INTERNSHIP, A 21 a
  - DIETETICS AS A PROFESSION 21 b
  - DIETETICS — HOW SWEET IT IS 21 c
  - SHOULD YOU BE A DIETITIAN? 136 j
- Entomologist
  - ENTOMOLOGY — AN EXCITING SCIENTIFIC CAREER 87 a
- Geomologist
  - GEMOLOGY AS A CAREER 91 a
- Geologist
  - ENGINEERING GEOLOGY 170 b
  - MARINE GEOLOGY 170 c
- Geophysicist
  - CAREERS IN EXPLORATION GEOPHYSICS 150 a
  - INFORMATION CONCERNING GEOPHYSICS 27 a
- Health Careers
  - HEALTH CAREERS (Job Opportunity Guide) 139 e
  - HEALTH SERVICE OCCUPATIONS (Occupational Outlook Brief) 167 f
- Home Economist
  - SHOULD YOU BE A HOME ECONOMIST? 136 p
- Horticulturist
  - HORTICULTURE — A REWARDING CAREER 50 a
- Hospital Careers
  - YOUR CAREER OPPORTUNITIES IN HOSPITALS 140 a
- Husbandry Specialist
  - CAREER IN ANIMAL SCIENCES 55 a

Mathematician
- CAN I BE A MATHEMATICIAN? 93 d
- FINDING EMPLOYMENT IN THE MATHEMATICAL SCIENCES 108 a
- SHOULD YOU BE A MATHEMATICIAN? 136 u
- WHY NOT BE A MATHEMATICIAN? 169 d

Medical Librarian
- MEDICAL LIBRARY CAREERS 109 a
- MEDICAL RECORD LIBRARIAN — KEY MEMBER OF THE MEDICAL TEAM 37 a

Medical Technologist
- CAREERS IN THE MEDICAL LABORATORY 60 a
- SHOULD YOU BE A MEDICAL TECHNOLOGIST? 136 v
- WHAT KIND OF CAREER COULD I HAVE IN A MEDICAL LABORATORY? 60 b
- WHY NOT BE A MEDICAL TECHNOLOGIST? 169 e

Microbiologist
- MICROBIOLOGY IN YOUR FUTURE 52 a

News Reporter
- SHOULD YOU BE A NEWS REPORTER? 136 x

Nurse
- DO YOU WANT TO BE A NURSE? 130 a
- GENERAL DUTY NURSE (Occupational Guide) 112 m
- NURSING CAN TURN YOU ON 40 a
- PRACTICALLY SPEAKING FOR A NURSING CAREER 126 a
- SHOULD YOU BE A NURSE? 136 y

Nutritionist
- CAREERS IN NUTRITION 33 a

Oceanographer
- BECOMING AN OCEANOGRAPHER 131 a
- CAREER INFORMATION SHEET 131 b
- OCEANOGRAPHY CURRICULA 131 c
- SO YOU WANT TO BE A MARINE SCIENTIST? 111 a
- TRAINING AND CAREERS IN MARINE SCIENCE 106 a

Optometrist
- WHAT IS AN OPTOMETRIST? 42 a
- WHY NOT BE AN OPTOMETRIST? 169 f

- Optician
    - OPTICIANRY 12 a
    - YOUR CAREER IN OPTICS 138 a
- Paleontologist
    - PALEONTOLOGIST, THE 171 a
- Pathologist
    - SHOULD YOU BE A PATHOLOGIST? 136 z
- Petroleum Worker
    - GOING PLACES IN OIL 45 c
- Pharmacist
    - SEE YOUR FUTURE IN PHARMACY 46 a
    - SHOULD YOU BE A PHARMACIST? 136 a2
    - THERE IS A FUTURE FOR YOU IN PHARMACY 118 a
    - WHAT IS A PHARMACIST? 160 a
    - WHY NOT BE A PHARMACIST? 169 h
    - YOUR CAREER OPPORTUNITIES IN PHARMACY 140 c
- Physicist
    - PHYSICS AS A CAREER 34 a
    - SHOULD YOU BE A PHYSICIST? 136 b2
- Physician
    - HEALTH CAREERS — OSTEOPATHIC MEDICINE 43 a
    - HORIZONS UNLIMITED 36 a
    - OPPORTUNITIES AND REWARDS OF MEDICINE CAN BE YOURS, THE 36 b
    - SHOULD YOU BE A DOCTOR? 136 l
    - YOUR CAREER OPPORTUNITIES IN MEDICINE 140 b
- Physiologist
    - CONSIDER PHYSIOLOGY 48 a
- Scientist
    - CAN I BE A SCIENTIST? 93 f
    - CREATIVE SCIENTIST — HIS TRAINING AND HIS ROLE, THE 161 b
    - SHOULD YOU BE A SCIENTIST? 136 e2
- Statistician
    - CAREERS IN STATISTICS 64 a
- Veterinarian
    - SHOULD YOU BE A VETERINARIAN? 136 j2
    - TODAY'S VETERINARIAN 67 a

X-Ray Technician

CAREERS IN X-RAY TECHNOLOGY 61 a

Free Films:

Agricultural Scientists

ATOMS IN AGRICULTURE 211 a

Astrophysicist

UNIVERSE ON A SCRATCHPAD (HQ 164) 202 c

Bacteriologist

CAREER IN BACTERIOLOGY 183 a

County Agricultural Agent

COUNTY AGENT 208 a

Dental Hygenist

BRIGHT FUTURE 177 a

Dental Research

LABORATORY OF THE BODY 177 c

Denist

CHALLENGE OF DENTISTRY, THE 177 b

PATTERN OF A PROFESSION 177 d

Dietitian

CAREER GAME, THE 201 c

SEARCH FOR MEANING (3291) 201 j

Health Professions

HORIZONS UNLIMITED (3033) 201 g

MATTER OF OPPORTUNITY, A (3882) 201 h

WITHOUT WARNING 196 b

Horticulturist

STORY OF JOHN PORTER 204 a

Medical Technologist

HUMAN CELL AND THE CYTOTECHNOLOGIST 206 a

IN A MEDICAL LABORATORY 206 b

Oceanographer

OCEANOGRAPHER IN POLAR REGIONS (MN 10301) 188 c

Pharmacist

DAY OF JUDGMENT — PHARMACY RECRUITMENT (1966) 196 a

Physician

- AMERICAN DOCTOR (1793) 178 a
- WIDER WORLD, A 200 a
- WITHIN THESE WALLS 200 b
- YOU BE THE DOCTOR 178 b

Podiatrist

- PODIATRY: OPPORTUNITY AND CHALLENGE 179 a
- WINGED FOOT, THE 179 b

Radiologist

- LIGHT IN SHADOWS: THE STORY OF X-RAY 189 a

Research Scientist

- POETRY OF POLYMERS (HQ 143) 202 b

Veterinarian

- VETERINARIAN, THE 208 b

Supplementary Books and Pamphlets:

Career Series

- OPPORTUNITIES IN A CHIROPRACTIC CAREER 240 e
- OPPORTUNITIES IN DENTISTRY 240 f
- OPPORTUNITIES IN GEOLOGY 240 l
- OPPORTUNITIES IN MATHEMATICS CAREERS 240 v
- OPPORTUNITIES IN NURSING CAREERS 240 x
- OPPORTUNITIES IN AN OPTOMETRY CAREER 240 z
- OPPORTUNITIES IN OSTEOPATHIC MEDICINE 240 a2
- OPPORTUNITIES IN PHARMACY CAREERS 240 c2
- OPPORTUNITIES IN PSYCHIATRY CAREERS 240 g2
- OPPORTUNITIES IN VETERINARY MEDICINE 240 t2

Careers in Depth Series

- YOUR FUTURE IN DENTAL ASSISTING 236 r
- YOUR FUTURE IN DENTISTRY 236 s
- YOUR FUTURE AS A DIETITIAN 236 w
- YOUR FUTURE IN FOOD TECHNOLOGY 236 d2
- YOUR FUTURE IN GEOLOGY 236 g2
- YOUR FUTURE AS A HOME ECONOMIST 236 j2
- YOUR FUTURE IN MEDICAL ASSISTING 236 x2
- YOUR FUTURE IN MEDICAL TECHNOLOGY 236 y2

YOUR FUTURE IN METEOROLOGY 236 a3
YOUR FUTURE IN NURSING 236 k2
YOUR FUTURE IN OCEANOGRAPHY 236 m3
YOUR FUTURE AS AN OPTICIAN 236 v
YOUR FUTURE IN OPTOMETRY 236 n3
YOUR FUTURE IN PHYSICS 236 p3
YOUR FUTURE IN PHARMACY 236 r3
YOUR FUTURE AS A PHYSICIAN 236 t3
YOUR FUTURE IN RADIOLOGIC TECHNOLOGY 236 x3
YOUR FUTURE IN VETERINARY MEDICINE 236 i4
CONCISE HANDBOOK OF OCCUPATIONS 226 a
COWLES GUIDE TO CAREERS AND PROFESSIONS 219 a
ENCYCLOPEDIA OF CAREERS AND VOCATIONAL GUIDANCE 226 b
HANDBOOK OF JOB FACTS 237 b
OCCUPATIONAL LITERATURE, AN ANNOTATED BIBLIOGRAPHY 225 a
OCCUPATIONS AND CAREERS 230 b
ON THE JOB 226 c

Filmstrips:

A NEW LOOK AT HOME ECONOMICS CAREERS 241 k

Tapes:

American Occupations Series (Educational Sensory Programming)
PHYSICIANS/OSTEOPATHIC PHYSICIANS 242 j
DENTISTS/DENTAL HYGIENISTS 242 k
DENTAL ASSISTANT/DENTAL LAB. TECHNICIAN 242 l
REGISTERED NURSES/LICENSED PRACTICAL NURSES 242 m
OPTOMETRISTS/PHARMACISTS 242 n
PODIATRISTS/CHIROPRACTORS 242 o
MEDICAL LABORATORY WORKER 242 q
RADIOLOGIC TECHNOLOGISTS/MEDICAL RECORD LIBRARIAN 242 r
DIETICIANS 242 s
SANITARIANS/VETERINARIANS 242 t
MATHMETICIANS/STATISTICIANS 242 u
GEOLOGISTS/GEOPHYSICISTS 242 v
METEROLOGISTS/OCEANOGRAPHERS 242 w

- LIFE SCIENTISTS/BIOCHEMISTS 242 x
- CHEMISTS/PHYSICISTS 242 y
- ASTRONOMERS 242 z
- ANTHROPOLOGISTS 242 d2
- GEOGRAPHERS 242 e2
- NEWSPAPER REPORTER 242 i2
- HOME ECONOMISTS 242 k2

Imperial Interview Tapes
- BIOLOGIST 243 d
- CHEMIST 243 e
- MEDICAL TECHNICIAN 243 o
- MEDICAL X-RAY TECHNICIAN 243 q
- NURSE, REGISTERED 243 t
- PHYSICIAN 243 u
- DENTAL TECHNICIAN 243 i2
- DENTAL HYGIENIST 243 q2

XIII. Exploring General Cultural Occupations

Some occupations are concerned with how man has lived and lives now. People in these occupations may be interested in the activities, beliefs, possessions, and values of others. Just as past generations have influenced us, what we do and how we live affects future generations. Perhaps you are interested in an occupation that helps us continue to learn about people.

The following questions about General Cultural occupations will be discusses:

1. **What occupations are in the General Cultural Group?**
2. **How important are General Cultural occupations?**
3. **What is the nature of General Cultural occupations?**
4. **What education or training is desirable for success in General Cultural occupations?**
5. **Where is employment in General Cultural occupations found?**
6. **What is the outlook for General Cultural occupations?**

1. What occupations are in the General Cultural Group?

① **General Cultural occupations are concerned with maintaining cultural traits and passing them from generation to generation.** Educators, journalists, ministers, and others are in this Group. These people teach and write about the way people live and behave. Their methods are patterned after the way in which they were taught. Attitudes about culture and cultural traits are thus picked up by each successive generation.

Examples of General Cultural occupations are listed below:

Level 1

Economist, university—guides students in learning the principles and methods of economics, and frequently engages in writing, lecturing, or consulting activities; does research in economic theory and formulates many of the new ideas that directly or indirectly influence government and industry planning.
(OEK 79) (DOT 050.088)*

Editor, large newspaper—directs the publishing of newspaper; writes editorials; and coordinates advertising, circulation, and production activities.
(OEK 69) (DOT 132.018)

Lawyer—advises people of their legal rights and obligations and, when necessary, represents them in courts of law. (Also known as "attorney.")
(OEK 9) (DOT 110.108)

Level 2

Clergyman, Protestant—leads in worship services and administers the rites of baptism, confirmation, and Holy Communion; prepares and delivers sermons and gives other talks; instructs people who are received into membership of the church, performs marriages and conducts funerals; counsels individuals who seek guidance, visits the sick and shut-in; comforts those who are bereaved, and serves church members in many other ways.
(OEK 67) (DOT 120.108)

Geographer, political—studies the way political processes affect geographic boundaries on subnational, national, and international scales, and also the relationship of geographic conditions to political situations.
(OEK 185) (DOT 059.088)

*Refer to OEK and DOT coding system on page I-2 of introduction to Teacher's Edition.

Geographer, urban—studies the geography and helps develop comprehensive plans and programs for utilization of land and physical facilities of cities, counties, and metropolitan areas.

(OEK 185) (DOT 029.088)

Historian—studies the records of the past and writes books and articles that describe and analyze past events, institutions, ideas, and people.

(OEK 377) (DOT 052.088)

Home economist, high school teacher—conducts courses in food, nutrition, clothing, textiles, child care, family relations, home furnishings and equipment, household economics, and home management; sponsors FHA chapters, and conducts many related activities.

(OEK 5, 6) (DOT 091.228)

Librarian, acquisition—purchases books and other library materials recommended by staff members, keeps a well-balanced library in quantity and quality, makes sure the library receives what is ordered, and maintains close contact with book jobbers and publishers.

(OEK 10) (DOT 100.288)

Librarian, cataloger—classifies books under various subjects and otherwise describes them so they may be located through catalogs on cards or in other forms.

(OEK 10) (DOT 100.388)

Librarian, college—works with students, faculty members, and research workers in general reference work or in a particular field of interest, such as law, medicine, economics, or music.

(OEK 10) (DOT 100.168)

Librarian, public—serves all kinds of readers—children, students, teachers, research workers, and others; provides special materials and services to culturally and educationally deprived people; records and makes information available; selects and organizes collections of books, pamphlets, manuscripts, periodicals, clippings, and reports, and assists readers in their use.

(OEK 10) (DOT 100.168)

Librarian, reference—aids readers in their search for information, answers specific questions or suggests sources of information.

(OEK 10) (DOT 100.168)

Librarian, school—instructs students in the use of the library and visits classrooms to familiarize students with library materials relating to the subjects being taught; works with teachers and school supervisors who plan the curriculum; prepares lists of printed and audio-visual materials on certain subjects; meets with faculty members to select materials for school programs; and selects, orders, and organizes library materials.

(OEK 10) (DOT 100.168)

Librarian, special—works in libraries maintained by commercial and industrial firms, such as pharmaceutical companies, banks, advertising agencies, professional and trade associations, government agencies, and other types of organizations such as hospitals and museums; plans, acquires, organizes, and catalogs materials, and retrieves information from these resources about subjects of special interest to the organization.

(OEK 189) (DOT 100.168)

Political scientist—studies the government—what it is, what it does, how and why; is interested in government at every level—local, county, state, regional, national, and international.

(OEK 366) (DOT 051.088)

Priest—attends to the spiritual, moral, and educational needs of the members of his church; offers the Sacrifice of the Mass, hears confessions, administers the sacraments (including the sacrament of marriage); visits and comforts the sick and bereaved, conducts funeral services, counsels those in need of guidance, assists the poor, and gives religious instruction.

(OEK 67) (DOT 120.108)

Rabbi—conducts services on the Sabbath and on holidays; prepares and delivers sermons, performs wedding ceremonies, visits the sick, conducts funeral services, comforts the bereaved, helps the poor, supervises religious education programs, engages in interfaith activities, assumes community responsibilities, and counsels individuals.
(OEK 67) (DOT 120.108)

Sociologist—studies the many groups which man forms—families, tribes, communities and states, and a great variety of social, religious, political, business, and other organizations which have arisen out of living together.
(OEK 367) (DOT 054.088)

Teacher, elementary—teaches children several subjects including reading, writing, and arithmetic, and supervises various activities, such as lunch and play periods.
(OEK 39) (DOT 092.228)

Teacher, kindergarten—conducts a program of education for young children; exposes children to experiences in play, music, art work, stories, and poetry; introduces them to science, numbers, language, and social studies.
(OEK 186) (DOT 092.228)

Urban planner—develops comprehensive plans and programs for the overall growth and improvement of urban communities; analyzes alternatives and proposes methods for achieving an efficient and attractive community within the framework of a community's policies and goals; visualizes future conditions in light of the trends in population growth and social and economic change; estimates the community's long range needs for land, housing, community facilities, transportation, recreation, business, and industry.
(OEK 209) (DOT 199.168)

Level 3

Law clerk—studies legal records and documents to obtain data; prepares written documents, and performs other routine activities of a law firm.
(OEK 300) (DOT 119.288)

Radio or TV announcer, broadcasting—presents news and live commercial messages, introduces programs, describes sporting events, acts as master of ceremonies, conducts interviews, and identifies stations; operates the control board, sells time, and writes scripts and news copy (in small stations); acts as disc jockey, introduces selections of recorded music and comments on the music and other matters of interest to the audience.
(OEK 280) (DOT 159.148)

Level 4, 5, and 6—no occupations listed.

2. *How important are General Cultural occupations?*

② The General Cultural Group is composed of important occupations. These occupations have considerable influence on the lives of many people. Some specific examples to illustrate this importance are given below.

④ Perhaps the most significant occupation is that of teaching. It is the largest of all professions. More than 2.7 million people are teachers. "Teaching" includes all of those who are engaged in the education process, including school administrators, supervisors, counselors, and the like.

Teachers have a very important influence upon the lives of young people. Kindergarten and elementary teachers often fill a parental role. They are responsible for providing meaningful and rewarding educational experiences for children. Secondary teachers also play a vital part in determining the direction and future of the lives of young people. It is up to the secondary teacher to see that interest is maintained in school work. To do this, the teacher must be well prepared for each day's instruction, be enthusiastic about teaching, and be able to convince the student of the necessity of being prepared to face the future.

Radio Announcer at Work. (Courtesy WJDX/WLBT, Jackson, Mississippi.)

A clergyman serves the spiritual needs of others, leads them in religious activities, and helps or comforts them in time of sorrow and stress. He, by his teachings and through his living example, leads others in formulating their beliefs and practices in relation to their God.

The overall growth and improvement of a community are often influenced by the plans and programs that have been developed by an urban planner. He estimates a community's long-range needs for land, housing, community facilities, transportation, recreation, business, and industry and then goes about getting his estimates and plans changed into realities.

3. *What is the nature of General Cultural occupations?*

The nature of General Cultural occupations varies from one to another. However, they are all concerned with the preservation and transmission of the general cultural heritage.

A clergyman's title and responsibilities vary according to his religion and beliefs, congregation size, and other factors. Most clergymen lead congregations in worship services and administer the rites of baptism, confirmation, Holy Communion, and marriage. Visiting the sick, conducting funeral services, comforting the bereaved, counseling those in need of guidance, and helping the poor are a few of the other duties of the clergy. Often a religious vocation leads one into home missions' work or even into other countries as a foreign missionary.

The nature of teaching varies from elementary school to high school. Kindergarten and lower elementary grade teachers must usually teach a variety of subjects. They may teach music, play, art, reading, science, numbers, language, and social studies. In some schools, especially in the upper elementary grades, a teacher may teach one subject area to several groups of students. The primary responsibility is teaching, but other duties may be part of the work. Examples of other duties include supervising students during lunch and play periods.

Secondary teachers usually specialize in one subject area and may teach several classes in this area. For example, a science teacher may teach courses in biology and chemistry. In addition, teachers may be responsible for supervising club activities or study hall. Teachers are frequently called upon to work after hours at school events such as ball games and band concerts.

A college or university teacher spends approximately 12 to 15 hours a week in classroom instruction. He also serves as an advisor to students majoring in his particular subject area, and, in most cases, is expected to write books and articles for journals, and to engage in research. Some college and university instructors teach night classes and extension courses and may be involved in giving correspondence instruction to persons living off campus. Other duties may involve sponsoring a club, serving on committees, and the like.

A good librarian knows the kinds of materials needed by people who use the library. This means that a librarian must evaluate books and other materials and select those most appropriate for the users of the library. In addition to selecting materials, a librarian must also see that they are purchased and properly cataloged. It is also the responsibility of librarians to publicize the services available through the library.

4. What education or training is desirable for success in General Cultural occupations?

③ **General Cultural occupations generally require a rather high level of education. In fact, most of them require at least a bachelor's degree. Some of them require a master's degree or doctor's degree.** A good example is an economist. To become a university-level economist, one is usually required to have a master's or doctor's degree, with a major in economics. A thorough grounding in economic theory, economic history, and methods of economic analysis are necessary if one is to do research and formulate policies that will influence government and industry planning. Many universities are also placing much emphasis on the importance of mathematical methods of economic analysis. A college instructor usually is required to have a master's degree in economics, but to acquire a professorship, it is necessary to get a doctor's degree. Students with good undergraduate records may be awarded a graduate assistantship to a college or university to work toward a master's degree. Graduate work should be planned if one wishes to compete for a responsible position in a college or university.

Attorneys must be admitted to the bar in the state where they plan to enter the practice of law. Being admitted to the bar usually involves passing a written examination. Some states, however, do not require this of graduates of law schools in the state. Before an individual can qualify for a bar examination, he must complete three years of college and must graduate from a law school approved by the American Bar Association or the proper state authorities. Training, or study in a law office, will, in some states, substitute for part of or all of the study in a law school. In a number of states the State Board of Examiners has to approve students entering law school or during the first few years of their legal study. It usually takes a minimum of seven years after high school to complete the required college and law school study. Advanced study should be planned if one wishes to specialize in a particular branch of law or to teach in a law school.

Many high school librarians have received only a bachelor's degree in library science. One planning to teach or to become an administrator should obtain an advanced degree. A special librarian should be knowledgeable in the subject area of his specialty. Some librarians have to know foreign languages. Usually, school librarians are certified by the state in which they plan to work.

A master's degree is usually the minimum required for employment as a sociologist. As in most occupations, advancement comes with experience and advanced training. Beginning jobs in the areas of interviewer, research assistant, caseworker, counselor, recreation worker, and administrative assistant in public or private welfare agencies are available to beginning workers with only a bachelor's degree.

The type of education and training required to enter the clergy is determined by the various religious groups served. Educational preparation ranges from no formal education at all to different amounts of training in liberal arts colleges, Bible colleges, or Bible institutes. Many Protestant denominations now require three years of study in a theological seminary after college graduation.

A person who wishes to be a rabbi must meet the requirements established by the Jewish laws. He must complete a prescribed course of study at a Jewish theological seminary before being ordained; such training may require from three to six years.

At least eight years of study after graduation from high school are necessary to become a priest. Priests are required by the Catholic Church to continue training after being ordained.

All states require teachers in the public schools to have teaching certificates. Most states issue regular teaching certificates only to those who have had four years of college study. In addition, certain prescribed courses must be part of the college work. In case of a shortage of qualified teachers, temporary teaching certificates may be issued to persons who can meet partial requirements. Teachers must have temporary certificates renewed every year until the requirements for regular certification have been met. Advancement for teachers into supervisory or administrative positions comes as a result of experience, additional education, or a move to another school system.

5. *Where is employment in General Cultural occupations found?*

Employment in General Cultural occupations can be found in most cities, towns, villages, and rural areas. A large number of those engaging in these occupations are employed by colleges and universities, and by federal, state, and local government agencies. A small number of persons in these occupations are self-employed.

The job opportunities available in teaching depend on the level and subject area for which the teacher is trained. Elementary schools usually have a number of vacancies each year. This means that a qualified teacher can find employment in almost any location. More opportunities in teaching are available in large urban areas. High schools are not as numerous in some areas as elementary schools, but are usually larger in size. Some counties, especially in Mississippi, have closed smaller schools and formed larger, consolidated schools.

Occupations in the ministry are found in most towns and communities. Of the 240,000 Protestant ministers, most are associated with the Baptist, Methodist, Lutheran, and Presbyterian churches. Ministers may serve individual congregations or as missionaries, chaplains in the Armed Forces, in hospitals or other institutions, or instructors in colleges and universities. Some are even employed as social workers.

The states of New York, California, Pennsylvania, New Jersey, Illinois, and Massachusetts have the majority of the Jewish population. Therefore, most rabbis serve in these states. Rabbis also serve Jewish people throughout the United States. The work of rabbis is similar to that of Protestant clergymen.

Most cities and towns and many rural communities have a Catholic church or churches. The majority of Catholics are found in the Northeast and Great Lakes regions, California, Texas, Louisiana, and other heavily populated areas. Priests also serve in capacities similar to Protestant ministers.

About 85 percent of the historians in our country are employed by colleges and universities. Of the 10,000 persons employed as historians, about ten percent are located in agencies of the federal government, primarily in Washington, D.C., and serve as archivists or in related occupational areas. Opportunities for a career as a historian are generally found in locations large enough to have a college, university, museum, or library with adequate facilities for research.

Most librarians work in towns or cities. A large number are employed by elementary and secondary schools, colleges and universities, and governmental agencies. Some librarians work with bookmobile units which provide services to less densely populated areas.

6. *What is the outlook for General Cultural occupations?*

Employment opportunities will steadily increase in the majority of occupations in the General Cultural Group. In some occupations the increase will be moderate, while in others it will be more rapid. Many employees will be needed to fill positions which become vacant as a result of deaths, retirements, and transfers to other fields of work.

Political and urban geographers will find an increase in employment in government agencies. Even though geography is a small field, well-qualified geographers should have no difficulty in finding employment.

The next few years may show some increase in the employment opportunities for historians. History teachers and archivists will have the greatest opportunities, but there will be only a slight increase in positions for other types of historians. Educational preparation will be important in securing a job. Positions as professional historians will be very difficult to locate for those with only a bachelor's degree. Some history teachers may have difficulty obtaining employment because of the large number of persons entering the occupation.

The quality of the law school attended and the scholastic rating of the individual will greatly influence a lawyer's prospects in the future. Those with higher scholastic ratings and from recognized schools of law will obtain, with less difficulty, positions with good salaries. A slight decline in the number of lawyers going into private practice may occur.

Opportunities for employment in library science will be favorable during the next few years. Excellent job openings will be available to those who are well qualified. Some of the best employment opportunities will be located in college and university libraries, school libraries, and special libraries.

Political scientists will find the largest growth in employment opportunities to be in colleges and universities. However, the amount of education one has will affect his chances of securing certain positions. There will not be a very large growth of openings for political scientists in private industries.

Job openings for sociologists will be greatest in institutions of higher learning. More jobs will be available to those who have had training in methods of research and advanced statistics. Without a master's degree and experience or a doctor's degree, one will find keen competition in securing employment as a professional sociologist.

Since there is an expected growth in the population and in the number of church congregations, there will continue to be a demand for clergymen. Many Protestant, Catholic, and Jewish congregations have not been able to secure full-time ordained clergymen to guide them in their religious activities.

During the past few years there has been an increase in the number of persons who have entered teaching. For this reason the demand for teachers has lessened somewhat and schools have begun to place more emphasis on a potential teacher's educational and scholastic achievement. New graduates may find competition to be greater, but the well-qualified teacher will usually find a teaching position.

The employment outlook for urban planners during the next decade is expected to be very good. As in most occupations, the well-qualified person will have less trouble securing employment.

There will be a moderate increase in the jobs available to radio and television announcers during the next ten years. Jobs will be more numerous in the radio industry because of the larger number of radio stations. However, automatic programming will be used more widely, thus cutting down on the number of jobs that will become available. Competition will be great in this field because of the attraction it has for young people.

A Television Cameraman at Work. (Courtesy WJDX/WLBT, Jackson, Mississippi.)

Goal:

Students should become familiar with General Cultural occupations and the interests and abilities which are important for success in these areas. They should also compare their own interests and abilities with those needed for success in various General Cultural occupations.

After the students have read Chapter XIII, have them discuss the following questions:

Review Questions:

1. What is the major concern of General Cultural occupations? p. 149
2. Why are the occupations in this Group considered important? p. 151
3. What level of education is the minimum for most General Cultural occupations? p. 153
4. What is the occupation of the largest groups of professional workers? p. 151

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Review various occupational information materials. Carefully note all occupations which are in the General Cultural Group. List occupations other than those given in this publication which you believe are in the General Cultural Group.

   Refer to Appendix P and references listed at the end of this chapter.
2. Select one or more occupations in the General Cultural Group in which you are interested. Determine the following information for each occupation: (Your teacher may have prepared some forms for your use.)

OCCUPATIONAL STUDY OUTLINE

A. *Name of Occupation:*

B. *Duties of the Occupation:*

C. *Qualifications:* What are the personal requirements?

D. *Age:* How old must I be to enter the occupation?

E. *Sex:* Is this an occupation in which others of my sex are normally employed?

F. *Specific Physical and Health Requirements:* Am I the correct height to do the work? Are my eyesight and hearing adequate? Am I strong enough?

G. *Interest:* Do I possess this interest? If not, could I develop interest in this type of work?

H. *Abilities:* Do I possess the required abilities? If not, could I acquire the knowledge and skills necessary to do the job?

I. *Personality:* Do I possess the personal qualities necessary for doing this type of work? If not, could I develop these qualities?

J. *Values and Attitudes:* Does anything about this job violate values and attitudes I have about people and work? If so, could I adjust to situations that required that I change my values and attitudes?

K. *Preparation:* What subjects do I need to study? What special training will I need? How long will it take to receive this training? How much will it cost? Can I get this training within the state? Is work experience required for entry into this occupation? What is the method of entry into this occupation?

L. *Working Conditions on the Job:* Is it hazardous work? Is it noisy or dirty? Will I be working in shifts? Will I work indoors or outdoors? Is it hard work? Does the work require being away from home for long periods of time?

M. *Rewards from Work:* How much is the beginning pay? Is there chance for advancement? Will this work experience help me get a better job? Would I be happy doing this type of work?

Students researching General Cultural occupations by listening to tapes.

N. *Employment Outlook:* How many are employed in the occupation at present? Are there employment opportunities in my community or state for this type of work?

O. *Special Requirements (such as certification, licenses, and examinations):*

3. Invite someone who is employed in a General Cultural occupation to visit your class and discuss the nature of his work.
   Refer to Appendix D.

4. Develop a display, bulletin board, or poster depicting occupations in the General Cultural Group. Obtain pictures from magazines or newspapers which show workers in General Cultural occupations.

5. Review the want ads of a newspaper. Cut out those ads for jobs in the General Cultural Group and place them on a poster or bulletin board. Note where they are found, the rate of pay, and requirements for entry.
   Refer to Appendix I.

6. Review the yellow pages of the local telephone directory. Make a list of all businesses which might have General Cultural occupations.

7. Compile a list of all the persons you know who work in General Cultural occupations. Also indicate their occupations and employers.

8. Invite a history teacher or librarian to visit class. Have him discuss General Cultural occupations that are related to history or library occupations. It would also be well to have him discuss how enrolling in certain classes can help provide the training needed for entering various occupations.
   Refer to Appendix D.

9. Visit the library in your school. Have the librarian explain the facilities found there. (It is suggested that arrangements for the visit be made well ahead of the visit.)

10. As the class members name the local businesses and government agencies that employ people in General Cultural occupations, write the names on a chalkboard. Ask if any members of the class know people employed at these places.

11. Conduct one or more of the following activities concerning religious occupations:
    a. Arrange for an interview with a clergyman. Tell him that you want to learn about his work and what it involves. Ask questions about such things as education, pay, and hours of work.
       Refer to Appendix F.
    b. Become familiar with the basic beliefs of a religion. Ask the minister, priest, or rabbi to help you locate information.
    c. Become active in a church. Ask the clergyman to give you some church duties to perform.
    d. Go with a clergyman to visit a sick person or a shut-in.
    e. If a devotional period is conducted at your school, prepare and give the devotional message. Use the intercom or present the devotional to a group.

12. Conduct one or more of the following activities related to library occupations:
    a. Arrange for an interview with a person in a library occupation in which you have an interest. Prior to the interview, prepare a list of questions you would like to have answered during the interview, such as the duties and how this person became interested in a library occupation. Present the list of questions to your teacher for approval. Read any information you can find on interviewing techniques, proper dress for an interview, etc.
       Refer to Appendix F.
    b. Learn the major divisions of the Dewey Decimal System. The school librarian or the English teacher can provide you with this information.

c. Ask the school librarian to explain the use of the card catalog, and then study its contents carefully.

d. Become familiar with the content, function, and use of the *Reader's Guide to Periodical Literature*. The librarian or English teacher can assist you in this activity.

e. Learn the meaning of all the coding on a book. The school librarian can assist you.

f. Prepare a bibliography of all the reference materials in the occupational orientation classroom that are concerned with the occupation of librarian. Refer to your English textbook for the correct procedure to use in preparing a bibliography.

g. Interview your school librarian to find the procedure followed to order books. Secure an order form and practice filling it in.

h. Using 3-inch x 5-inch cards, prepare several examples of library cards with titles and codes (Dewey Decimal System, Library of Congress, etc.) which are used in the card catalog. File these in proper sequence in a small box. Ask the librarian to check your work for accuracy.

13. Conduct one or more of the following activities: (These activities are for the occupations of historian, geographer, political scientist, sociologist, and economist.)

    a. Arrange for an interview with a person in the specific occupation in which you have an interest. (Follow the proper procedure for conducting the interview.)

       Refer to Appendix F.

    b. Activities for history occupations:

       (1) Prepare a paper that describes the influence of the Smith-Hughes Act on the development of vocational education.

       (2) Trace the genealogy of your family for as many generations as possible. Include names, dates of birth and death, etc.

    c. Activities for geography occupations:

       (1) On a piece of posterboard, draw a diagram illustrating the political organization of your county government. Be prepared to explain the diagram to your classmates. The government teacher in your high school should be able to help you with this project or give you suggestions as to where you may get such assistance.

       (2) Sketch the state map showing county boundary lines. Obtain a record of which counties voted for certain candidates in the last governor's election. (This information can usually be obtained from the local newspaper office.) Indicate on the map by writing inside the county boundary lines the last name of the candidate who "carried" each county. A different color might be used for each candidate.

    d. Activities for political science occupations:

       (1) Prepare a paper comparing the government of the United States with that of the Soviet Union. Using the information in your paper, give a five-minute talk to your classmates on your comparison study.

       (2) Conduct an opinion poll on whether the President of the United States should continue to be elected by the electoral college or be elected by popular vote (majority vote of the population). Prepare an interview sheet and present it to your teacher for approval. Interview approximately twenty-five people in your town. (Be sure to explain to them the purpose of your interview.) Compile your information and report your findings to the class.

    e. Activities for sociology occupations:

       (1) Prepare a paper on the origin, development, purpose, and functions of your county welfare department. Give a three-minute speech to your classmates summarizing your paper.

(2) Observe one of the leaders in your school and try to determine why he is a leader. Note how his behavior influences group behavior. Ask individual students to state the characteristics this person (leader) has which make him a leader. Write a paper summarizing your study.

f. Activities for economics occupations:

(1) Become familiar with the meaning of the term "gross national product" (GNP) and its importance to an economist. Prepare a graph on posterboard to illustrate the rise in our GNP. Explain the graph to your classmates.

(2) Become familiar with the "law of supply and demand" and the "law of diminishing returns." Explain these laws to your classmates by illustrating each on the chalkboard or by other means.

g. Activities for urban geography occupations:

(1) Plan and develop a sketch of a shopping center which would fit the needs of your city, town, or community. Take a survey to determine the types of business that should be located in the center. Interview about twenty-five citizens to get their reactions to the types of business needed.

(2) Obtain a map of your community, town, or city, or one nearby. Using colored pencils or crayons, color the residential sections blue, the business districts red, and the industrial districts green. Display the map on the bulletin board in your classroom.

14. Conduct one or more of the following activities concerning occupations in teaching:

a. Arrange for an interview with a person in the specific teaching occupation in which you have an interest.

Refer to Appendix F.

b. After choosing a particular topic which relates to your selected teaching area (for example, "Gross National Product" for an economics teacher; "Parts of a Business Letter" for a typewriting teacher; "The Color Wheel" for a home economics teacher; "Basic Addition" for an elementary teacher, etc.), prepare a fifteen-minute teaching plan. You will be given the time needed to present or teach the topic to your classmates. Begin the class by checking the role as your teachers do each day.

c. Prepare a short examination (about five questions) that will test your classmates' comprehension of the topic you taught. Grade the test and return it to your "students."

d. Attend a PTA meeting with your parents.

15. Perform one or more of the following activities which are concerned with the occupation of lawyer:

a. Prepare a will for yourself. The business teacher in your school should be able to supply you with a book which illustrates a will. Business law books usually have such an illustration. Present the finished copy of your will to the occupational orientation and business teachers for their approval.

b. Prepare a report on the laws relating to the issuance of "bad checks." In the report include the following information: circumstances existing when the issuance of "bad checks" is not a crime, the criminal liability, how a notice of dishonor is presented, punishment for issuance of "bad checks," etc.

c. Visit a courtroom and observe a court proceeding.

d. Give an oral presentation about the functions of a state supreme court, a county, circuit, superior, or district court, and a justice of the peace court.

e. Give an oral presentation in which you tell how a case is tried in a courtroom.

16. Conduct the following activities related to radio and television announcing:

a. Prepare a five-minute script that relates the purpose, methods used in teaching, and other pertinent information regarding occupational orientation. With the school's intercom system on only in your classroom, present the script to your classmates.

b. Choose a product and prepare a one-minute commercial for it. Present the commercial to your teacher for approval. Give the commercial in front of your classmates and then ask for their constructive criticism.

Additional Occupations:

Additional occupations included in the OEK which may be classified in the General Cultural Group are listed below:

Teachers of Exceptional Children (OEK 138) (DOT 094.228)
Translators and Interpreters (OEK 143) (DOT 137.288)
College Teachers (OEK 183) (DOT 090.228)
Magazine Editorial Workers (OEK 245) (DOT 132)
School Superintendents (OEK 293) (DOT 091.118)
Disc Jockeys (OEK 296) (DOT 159.148)
Driving Instructors (OEK 324) (DOT 099.228)
Film Editors (OEK 329) (DOT 962.288)
Book Editors (OEK 355) (DOT 132.068)
College Administrators and Advisers (OEK 391) (DOT 090.118)
Judges (OEK 395) (DOT 111.108)

Additional Activifies:

1. Have students discuss the following situation:

WHAT WOULD YOU DO?

Carol's parents say that they do not intend to send her to college unless she decides on a major and sticks to her decision.

Carol cannot think of any occupation to tell her parents except "teacher." She is not really sure what qualities she would need for this occupations or if she would be interested in this area.

What would you do?

2. Students may use this form to relate the importance of school subjects to various jobs in the General Cultural category. They should complete the chart with jobs which interest them most.

SCHOOL SUBJECTS AND JOBS*

Fill in Job Blanks	Speech	English	Writing	Math	Science	Social Studies	Art	Music	Shop & Home Ec.	Other	Other

Make code entries on chart.

CODES:	E - Essential	Subject matter is absolutely necessary for success on the job or for completion of educational requirements for the job.
	I - Important	The subject matter is important to success on the job, although it may not always be an absolute requirement.
	U - Useful	The subject is very useful for the job and is usually directly related.
	S - Somewhat Useful	The subject is somewhat useful for the job.

***Career Exploration, A Guide for Teachers.** (Oklahoma State Department of Vocational and Technical Education), p. 37. Printed with permission.

Suggested Review Survey:

Circle the best answer.

T F 1. Teaching is the largest of all professions.

T F 2. College teachers spend approximately 25 hours a week in the classroom.

T F 3. Most General Cultural occupations require only a high school education.

T F 4. Most historians work for manufacturing firms.

T F 5. Increased use of audio visual aids will drastically reduce the number of librarians needed in the next few years.

T F 6. A severe shortage of teachers exists across the country at the present time.

T F 7. All of the General Cultural occupations are concerned with the preservation and transmission of the general cultural heritage.

T F 8. A master's degree is usually the minimum required for employment as a sociologist.

T F 9. All ministers must have at least four years of college.

T F 10. The number of lawyers going into private practice is expected to increase significantly in the next few years.

Answers to suggested review survey: 1, T; 2, F; 3, F; 4, F; 5, F; 6, F; 7, T; 8, T; 9, F; 10, F.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Free Printed Materials:

Clergyman
  SHOULD YOU ENTER THE CLERGY? 136 k2

Lawyer
  PROFESSION OF LAW, THE 11 a
  SHOULD YOU BE A LAWYER? 136 r

Librarian
  CHILDREN'S LIBRARIAN, THE 35 a
  FUTURE UNLIMITED 35 b
  LAW LIBRARIANSHIP 7 a
  LIBRARY 89 a
  LIVELY CAREER OF A SCHOOL LIBRARIAN, THE 35 c
  PUBLIC LIBRARIAN, THE 35 d
  SHOULD YOU BE A LIBRARIAN? 136 s
  WHO IN THE WORLD WANTS TO BE A LIBRARIAN? 35 e

Journalism
  BIG STORY, THE 149 a
  INFORMATION ON THE ROAD TO A CAREER IN JOURNALISM 137 a
  YOUR FUTURE IN DAILY NEWSPAPERS 39 a

Radio and TV Announcer
  BROADCAST NEWS CAREERS 147 a
  CAREERS FOR WOMEN IN BROADCASTING 70 a
  MIKE AND CAMERA 149 b

Teacher
  MATHEMATICS TEACHING AS A CAREER 125 a
  SHOULD YOU BE A TEACHER? 136 i2
  TEACHING AS A CAREER 24 a

Urban Planner
  SHOULD YOU BE A CITY OR REGIONAL PLANNER? 136 h
  WHY NOT BE AN URBAN PLANNER? 169 k

Free Films:

College Teachers

- UNIVERSITY IS A TEACHER, A 210 a

Librarian

- AT THE CENTER (3947) 201 a

Journalism

- THAT THE PEOPLE SHALL KNOW (2870) 201 k
- DID YOU HEAR WHAT I SAID? (S133) 181 b

Supplementary Books and Pamphlets:

Career Series

- OPPORTUNITIES IN FOREIGN LANGUAGE CAREERS 240 h
- OPPORTUNITIES IN A LAW CAREER 240 q
- OPPORTUNITIES IN LIBRARY CAREERS 240 r
- JEWISH RELIGIOUS VOCATIONS 240 n
- OPPORTUNITIES IN JOURNALISM CAREERS 240 o
- OPPORTUNITIES IN RADIO 240 i2
- OPPORTUNITIES IN TEACHING CAREERS 240 o2
- VOCATION AND PROTESTANT RELIGIOUS OCCUPATIONS 240 u2

Careers in Depth

- YOUR CALLING AS A BROTHER 236 l
- YOUR FUTURE AS A MINISTER 236 u
- YOUR FUTURE IN ELEMENTARY SCHOOL TEACHING 236 a2
- YOUR FUTURE IN JOURNALISM 236 r2
- YOUR FUTURE AS A LIBRARIAN 236 u2
- YOUR CALLING AS A NUN — A SENSE OF MISSION 236 i3
- YOUR FUTURE AS A RABBI — A CALLING THAT COUNTS 236 w3
- YOUR FUTURE IN TELEVISION 236 e4
- YOUR FUTURE IN TRANSLATING AND INTERPRETING 236 t

CONCISE HANDBOOK OF OCCUPATIONS 226 a

COWLES GUIDE TO CAREERS AND PROFESSIONS 219 a

ENCYCLOPEDIA OF CAREERS AND VOCATIONAL GUIDANCE 226 b

HANDBOOK OF JOB FACTS 237 b

OCCUPATIONAL LITERATURE, AN ANNOTATED BIBLIOGRAPHY 225 a

OCCUPATIONS AND CAREERS 230 b

ON THE JOB 226 c

Filmstrips:

YOUR FUTURE IN ELEMENTARY EDUCATION 241 t

Tapes:

American Occupations Series (Educational Sensory Programming)

- PROTESTANT CLERGYMEN 242 d
- RABBIS/ROMAN CATHOLIC PRIESTS 242 e
- ECONOMISTS 242 d2
- HISTORIANS 242 e2
- POLITICAL SCIENTISTS/SOCIOLOGISTS 242 f2
- KINDERGARTEN AND ELEMENTARY SCHOOL TEACHER/SECONDARY SCHOOL TEACHER 242 g2
- COLLEGE AND UNIVERSITY TEACHERS 242 h2
- LAWYERS 242 l2
- LIBRARIANS/LIBRARY TECHNICIANS 242 m2
- URBAN PLANNERS 242 r2
- RADIO — T. V. ANNOUNCER 242 m4

Imperial Interview Tapes

- LAWYER 243 m
- LIBRARIAN 243 n
- SECONDARY TEACHER 243 n2
- ELEMENTARY TEACHER 243 t2

XIV. Exploring Arts And Entertainment Occupations

① *Some people like to entertain others. Young people who have special skills may find an Arts and Entertainment occupation in which they are interested.* ***The areas in this Group include music, painting, dancing, and various performing occupations. Of special interest to boys is the fact that professional athletes are included here.***

The following questions about Arts and Entertainment occupations will be answered:

1. **What occupations are in the Arts and Entertainment Group?**
2. **What is the nature of Arts and Entertainment occupations?**
3. **How important are Arts and Entertainment occupations?**
4. **Where are Arts and Entertainment occupations found?**
5. **What education or training is desirable for success in Arts and Entertainment occupations?**
6. **What is the outlook for Arts and Entertainment occupations?**

1. What occupations are in the Arts and Entertainment Group?

The Arts and Entertainment Group does not contain a large number of occupations. However, it does contain some occupations which can be very profitable to persons in them. Most people like to participate in certain aspects of Arts and Entertainment occupations as recreation. For example, high schools have musical groups, athletic contests, art departments, school newspapers, and social functions. Many of these high school activities contain elements of Arts and Entertainment occupations.

Examples of occupations in this Group are listed below:

Level 1

Architect–plans and designs private homes, office buildings, hospitals, schools, factories, and other structures; organizes materials and equipment necessary to meet specifications; talks with the customers and plans layout and cost of the structure; prepares sketches, drawings, and specifications for the building contractor and construction workers.
(OEK 64) (DOT 001.081)*

Level 2

Accountant, executive, advertising–handles relations between an advertising agency and its clients; develops an advertising campaign and applies the program to the client's needs.
(OEK 371) (DOT 165.068)

Actor–portrays various characterizations to audience by use of gestures, speech, song, and/or dance.
(OEK 62) (DOT 150.048)

Actress–(See Actor)
(OEK 62) (DOT 150.048)

Art director–supervises, directs, and participates in work related to the design of sets, scenic effects, and costumes.
(OEK 257) (DOT 149.031)

Athletic coach, college–analyzes the performance of players and instructs them in areas of weakness to develop teams for sports competition; demonstrates the techniques of the game to the players in order to improve their skills.
(OEK 242) (DOT 099.228)

*Refer to OEK and DOT coding system on page T-2 of introduction to Teacher's Edition.

Dancer—performs classical, modern, or acrobatic dances, alone or with a partner or group to entertain people; times body movements and facial expressions to express the theme of the dance.
(OEK 150) (DOT 151.048)

Designer, apparel—creates original designs for new types and styles of apparel (such as suits, dresses, wraps, etc.).
(OEK 142) (DOT 142.081)

Designer, industrial—designs many products such as furniture, lamps, cars, household appliances, and aircraft; takes into consideration price, appearance, customer wants and needs, and methods of production; supervises the development of design sketches into working drawings, specifications, and models.
(OEK 7) (DOT 142.081)

Musician, instrumental—plays one or more musical instruments alone or with others; manipulates keys, valves, strings, or percussion devices, depending upon the type of instrument being played.
(OEK 133) (DOT 152.048)

Research director, advertising—directs workers engaged in preparation of advertising and publicity programs and materials; processes and analyzes information gathered by assistants.
(OEK 63) (DOT 189.118)

Singer—gives expression to harmony, melody, and rhythm of music by means of voice.
(OEK 309) (DOT 152.048)

Teacher, art—instructs pupils in art, such as painting, sketching, designing, and sculpturing; demonstrates methods and procedures, and observes pupils to make criticisms and corrections.
(OEK 291) (DOT 091.288)

Level 3

Artist, advertising (display artist)—draws, paints, or sketches backgrounds and other fixtures made of paper, cardboard, wallboard, plaster, canvas, or wood used in exterior or interior displays.
(OEK 63) (DOT 142.081)

Copywriter, advertising—consults with the account executive, newspaper, radio and television representatives, and marketing representatives about a product or service that is to be advertised; writes original advertisement copy for newspapers, magazines, and billboards; writes scripts for radio and television advertising.
(OEK 361) (DOT 132.088)

Decorator-designer, interior—designs and plans artistic interior furniture, lighting fixtures, pictures, draperies, and walls of homes, hotels, ships, hospitals, and other establishments; directs workers painting walls, laying carpets, arranging furniture, etc.
(OEK 8) (DOT 142.051)

Layout man, advertising—designs layouts for newspaper, magazine, television, poster, direct mail, and billboard advertisements; uses sketches, illustrations, and photographs provided by the customer to develop the layout.
(OEK 63) (DOT 141.081)

Model—models garments such as dresses, coats, underclothing, swimwear, and suits for garment designers, buyers, sales personnel, and customers.
(OEK 167) (DOT 297.868)

Photographer, commercial—photographs persons, merchandise, buildings, machinery, and fashions to be used in advertising and selling; loads film, adjusts camera, and develops prints.
(OEK 35) (DOT 143.062)

Professional athlete—engages in one sport such as football, basketball, tennis, golf, or track as a means of livelihood.
(OEK 36) (DOT 153.348)

Level 4

Delineator-renderer—makes artistic drawings of buildings and manufactured products for display and use in advertising.
(OEK 63) (DOT 970.281)

Floral designer—designs and fashions natural and artificial flowers and foliage; uses wires, pins, and tape to arrange and fit corsages, sprays, wreaths, centerpieces, and other designs for weddings, balls, dances, church services, and funerals.
(OEK 233) (DOT 142.081)

Letterer—paints or draws precise lettering to be reproduced in books, advertisements, and other printed materials.
(OEK 63) (DOT 970.381)

Paste-up man—photographs prepared advertisement copy, develops photographic negatives, and arranges and mounts illustrations and printed legends on paper according to an artist's layout; uses a ruler, drafting instruments, scissors and a knife to arrange, cut, and fit materials.
(OEK 63) (DOT 979.381)

Level 5

Stagehand—handles props, curtains, and electrical equipment in a theater.
(DOT 964.168)

Level 6—no occupations are listed.

2. *What is the nature of Arts and Entertainment occupations?*

Several occupations in this Group are related to advertising. People in advertising plan and prepare advertisements for such products as cars, stoves, refrigerators, clothing, and office equipment. They also plan and prepare advertisements characterizing services rendered by businesses such as insurance companies, restaurants, gas stations, and banks. These workers include researchers who find out what customers need and want and what advertisements appeal to those needs and wants, copywriters who write the text of the advertisements, artists who prepare the illustrations, and layout specialists who put copy and illustrations into the most attractive arrangements possible.

② Work in the performing arts requires extensive practice. Actors, actresses, musicians, and dancers may be required to travel a great deal. It is usually hard and demanding work that requires special talent and involves many difficulties and uncertainties. Due to competition, only a small number of those engaged in such occupations achieve recognition as stars. This is particularly true of actors and actresses. Many struggle for a toehold in the profession.

The creative work of the architect, industrial designer, interior designer and decorator, and the renderer enhances the attractiveness of homes and other products. These people spend much time doing historical research, as well as contemporary information-gathering. They work with cost estimates, materials to be used, and other factors of design.

52,000
7,000
9
2.50
45-53
2.95
BRANDING
CHUTE

Workers in Advertising Occupations Preparing a Display. (Courtesy WJDX/WLBT, Jackson, Mississippi.)

Sports careers are not easy. In most sports activities a great deal of energy must be expended by the participants. Much practice and discipline are required before the actual events are conducted for spectators. Most sports are played on weekends and holidays when other persons are relaxing. The athletic coach must not only know the game, but be able to demonstrate the game to the players. The athletic director must have a broad knowledge of several sports and will be required to provide leadership in establishing a program of athletics for an institution and the community. Players, as well as coaches and directors, must be able to work with people.

Models could easily be classified with those in advertising occupations. They are important to clothing buyers and department stores in displaying new styles. The American garment industry has assumed world leadership in the production of clothing. Increasing numbers of models are needed to display clothing. At certain peaks of the fashion year a model may be on duty constantly in the showroom. During "slow" seasons, the model may act as a receptionist, do routine filing, and answer the telephone. Department store models may have regularly scheduled style shows. Many models work part-time for special shows, or for a certain buyer's showings.

The apparel designer plans how clothing is to be cut for factory production. He must understand the methods of production so that the garment can be efficiently produced. He must meet with retail buyers to determine consumer trends. Designers of clothing may travel to England, France, and other countries to observe styles.

3. How important are Arts and Entertainment occupations?

Advertising helps to create competition in the free enterprise system. One result of advertising is that people are made aware of the products and services available. Moreover, as the United States becomes more affluent and our population increases, people demand more goods and services. Only mass selling can distribute such a wide range of products and services to so many people. Advertising is the means that sellers use to interest buyers and customers. This is done through various media: store fronts and windows, newspapers and magazines, radio and television, direct mail, and outdoor advertising.

The advertising workers included here are principally responsible for the creative visual aspects of advertising. The end product of their work is visible in television, magazines, and other places. Approximately 250,000 people are employed in all types of advertising work.

Persons working in the performing arts provide a variety of entertainment. There are approximately 24,000 dancers and dancing teachers; 18,000 actors and actresses; 162,000 musicians and music teachers; and 59,000 singers and singing teachers. At the present time many work part-time in these occupations and work in other occupations as a principal means of livelihood.

Few people make their own clothing or that of their families, as was the case fifty years ago. Ready-made dresses are now produced in mass quantities and in many styles. The American people demand more clothing in many styles for every season of the year. Fewer than 20,000 designers create designs for the clothing of men, women, and children.

Increasing numbers of models are needed to display the many styles of clothing in style shows, in photographs in newspapers, catalogs, and magazines, and on posters and television.

Sports events, which involve one player or teams of players, provide a means for Americans to relax while watching others perform. The sports world is a vital element in our society. Many people have been brought from the ranks of the depressed to fame and glory as a result of participation in sports. Many minds have been molded as a result of sports competition. Many professional players have moved to jobs in the motion picture industry, radio, and television, and several have been elected to political offices. Many are presently employed as professional athletes, athletic coaches, and athletic directors.

4. Where are Arts and Entertainment occupations found?

Employment in advertising occupations is found primarily in advertising agencies, manufacturing companies, stores, and other organizations having products or services to sell. Many are employed by newspaper and magazine publishers, printers, and art studios.

Many actors and actresses are employed by stage and motion picture companies. Some are employed by "live" radio and television. The location of employment may depend upon the season of the year, and whether the work is with motion picture filming or on the stage. In the winter, most employment opportunities on the stage are in New York City. Stage actors may perform in resort theaters, or in community theaters throughout the nation. Employment opportunities in motion pictures and television are centered in Hollywood, New York, Miami, and a few other parts of the country.

Dancing teachers are employed in schools of dance and in schools and colleges located principally in large cities. Many dancers are performers on the stage, screen, and television. New York City, Los Angeles, San Francisco, Chicago, and Miami are the locations for most employment opportunities for dancers.

Most professional musicians and singers perform in New York, Chicago, and Los Angeles. Music teachers and singing teachers are employed in elementary and secondary schools, as well as in colleges and universities all over the country.

About two-fifths of the 32,000 registered architects are self-employed, practicing individually or with partners. Most of the others work for architectural firms with large construction programs. Some are employed by government agencies in such fields as community planning and urban redevelopment. A few teach in schools of architecture.

Most interior decorator-designers are employed with large department and furniture stores located in large cities. Some are employed with hotel and restaurant chains. Others are employed by architects, antique dealers, office furniture stores, industrial designers, furniture and textile manufacturers, or by periodicals that feature articles on home furnishings.

Most of the 10,000 industrial designers are employed by large manufacturing companies and by design-consulting firms. Some do free-lance work. A few work for architects.

Most professional athletes are employed by leagues or other organizations. Most work in and around large cities, traveling to and from these metropolitan areas to perform. Most athletic coaches and directors are employed in schools, colleges, universities, and other institutions.

Clothing styles change often, especially in women's clothing. Most clothing for women is designed by women. The major center for employment of designers is New York. Most fashion models are women. They are employed by large department stores and in other places where there are apparel showrooms. The designer in men's wear usually works closely with the factory producing the garment. The field of male modeling is highly competitive and difficult to enter.

5. *What education or training is desirable for success in Arts and Entertainment occupations?*

Most employers hiring advertising trainees prefer college graduates with liberal arts training, or majors in marketing, journalism, or business administration. However, many have been successful without such an educational background.

③ **High school students planning to enter the advertising field should get experience by working for the school newspaper, annual, or other publications. Experience may be acquired through part-time jobs in selling, or by enrolling in distributive education classes.** Many advertising companies recruit college graduates and train them on the job. Many young people begin their careers in advertising as mail clerks, messengers and runners, assistants in research or production work, and junior copywriters. Others begin as secretaries and in advertising departments in retail stores. Preparatory courses in high school for advertising careers consist of communications, social studies, sociology, psychology, and economics.

A college degree is becoming increasingly necessary for an acting career. Dramatic arts in college includes courses in liberal arts, speech, pantomime, play production and drama. **Young people aspiring to acting careers need experience and should become involved with school plays and little theaters in the community.**

Those aspiring to be dancers, dance teachers, musicians, music teachers, singers, or singing teachers should begin studying and receiving special instruction at an early age. A college education is an advantage in obtaining employment as a dance teacher or as a music or singing teacher. Employment as a special performer requires professional training for several years. To get experience, young people should seize every opportunity to perform.

A license is required for the practice of architecture. Requirements for a license include graduation from an accredited school, followed by three years of practical experience in an architect's office as a junior draftsman. Normally it takes a graduate several years to progress to chief draftsman, designer or other advanced positions, including establishing one's own practice. **Students interested in careers in architecture should take subjects in mathematics, physics, chemistry, and economics.**

Most employers require interior decorators and designers to have at least two or three years of formal art or interior decorating and design training. Many require a bachelor's degree with a major in interior design and decorating. New graduates may receive from one to three years of on-the-job training after being employed. Talented workers may advance rapidly if employed by larger firms.

The completion of a course of study in industrial design—in an art department of a university or a technical college—may adequately prepare one for entry into industrial design. The prescribed curriculum may take from two to five years of study leading to a diploma. New graduates usually start as assistants to more experienced designers. Entrance in the course of study requires a high school diploma. **Preparatory courses in high school are science, mathematics, and mechanical drawing.**

Those aspiring to be models should take every opportunity to model at the high school or home town stores and to enter beauty contests. Enrolling in the home economics class will give one the opportunity to learn good grooming habits, poise, and carriage. Most employers of fashion models prefer college graduates with good communication ability and a good general cultural background. Modeling and charm schools offer much of the training that is needed.

Fashion designing is very competitive work. A college degree is recommended, though not required. Some colleges offer a degree in fine arts with a major in fashion design that will prepare a person to begin as a fashion designer. Most start their careers as design assistants. **Students may begin preparing for designing careers in high school by taking art courses, and by practicing sewing and making clothing.** Summer jobs in department or specialty stores will give valuable experience.

Most professional athletes, athletic coaches, and athletic directors are college graduates, or have attended college for a while. Such education is usually not a requirement for employment as an athlete.

6. What is the outlook for Arts and Entertainment occupations?

The outlook in certain Arts and Entertainment occupations is very good. For others it is poor.

The development of new products and services should continue the demand for workers in advertising. Increases in competition among producers of industrial and consumer goods will also help to keep many opportunities available. Since advertising seems to attract young people, it is probable that those seeking entry will face stiff competition.

Opportunities will be limited for those seeking to enter the performing arts occupations. The professional acting, singing, dancing, and music fields have long been overcrowded with those desiring fame in these occupations, and this is expected to persist. However, the demand for teachers of performing arts will be more promising.

The outlook is for continued rapid growth in opportunities for careers in arcnitecture in the 1970's. Growth will be rather slow in interior decorating and design and industrial design.

Chances for entering a career as a model are about one in ten. The opportunities for men in the modeling field are very limited.

There will be many opportunities throughout the 1970's for apparel designers.

The demand for professional athletes, athletic directors, and athletic coaches will increase during the 1970's. However, there are increasing numbers seeking to enter these occupations. Employment opportunities will be limited except for those with determination, the required physical makeup, experience, and ability.

Goal:

Students should become familiar with Arts and Entertainment occupations and the interests and abilities which are important for success in these areas. They should also compare their own interests and abilities with those needed for success in various Arts and Entertainment occupations.

After the students have read Chapter XIV, have them discuss the following questions:

Review Questions:

1. What is the main focus of Arts and Entertainment occupations? p. 162
2. What is meant by "creative work"? "performing arts"? p. 164
3. How is participation in high school activities related to Arts and Entertainment occupations? pp. 167-168

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Review various occupational information materials. Carefully note all occupations which are in the Arts and Entertainment Group. List occupations other than those given in this publication which are in the Arts and Entertainment Group.
   Refer to Appendix P and references listed at the end of this chapter.
2. Select one or more occupations in the Arts and Entertainment Group in which you are interested. Determine the following information for each occupation: (Your teacher may have prepared some forms for your use.)

OCCUPATIONAL STUDY OUTLINE

A. *Name of Occupation:*

B. *Duties of the Occupation:*

C. *Qualifications:* What are the personal requirements?

D. *Age:* How old must I be to enter the occupation?

E. *Sex:* Is this an occupation in which others of my sex are normally employed?

F. *Specific Physical and Health Requirements:* Am I the correct height to do the work? Are my eyesight and hearing adequate? Am I strong enough?

G. *Interest:* Do I possess this interest? If not, could I develop interest in this type of work?

H. *Abilities:* Do I possess the required abilities? If not, could I acquire the knowledge and skills necessary to do the job?

I. *Personality:* Do I possess the personal qualities necessary for doing this type of work? If not, could I develop these qualities?

J. *Values and Attitudes:* Does anything about this job violate values and attitudes I have about people and work? If so, could I adjust to situations that required that I change my values and attitudes?

Teacher assisting students in researching Arts and Entertainment occupations. (Courtesy Dixie Electric Power Association, Laurel, Mississippi.)

K. *Preparation:* What subjects do I need to study? What special training will I need? How long will it take to receive this training? How much will it cost? Can I get this training within the state? Is work experience required for entry into this occupation? What is the method of entry into this occupation?

L. *Working Conditions on the Job:* Is it hazardous work? Is it noisy or dirty? Will I be working in shifts? Will I work indoors or outdoors? Is it hard work? Does the work require being away from home for long periods of time?

M. *Rewards from Work:* How much is the beginning pay? Is there chance for advancement? Will this work experience help me get a better job? Would I be happy doing this type of work?

N. *Employment Outlook:* How many are employed in the occupation at present? Are there employment opportunities in my community or state for this type of work?

O. *Special Requirements (such as certification, licenses, and examinations):*

3. Invite someone who is employed in an Arts and Entertainment occupation to visit your class and discuss the nature of his work.
   Refer to Appendix D.
4. Develop a display, bulletin board, or poster depicting occupations in the Arts and Entertainment Group. Cut pictures from magazines or newspapers which show workers in Arts and Entertainment occupations.

5. Review the want ads of a newspaper. Cut out those ads for jobs in the Arts and Entertainment Group and place them on a poster or bulletin board. Note where they are found, the rate of pay, and requirements for entry.
   Refer to Appendix I.
6. Review the yellow pages of the local telephone directory. Make a list of all businesses which might have Arts and Entertainment occupations.

7. Compile a list of all the persons you know who work in Arts and Entertainment occupations. Indicate their occupations and employers.

8. Invite the art or music teacher in your school to visit class. Have him discuss Arts and Entertainment occupations. It would also be well to have him discuss how enrolling in an art or music class can help provide the training needed for entering various occupations.
   Refer to Appendix D.
9. Visit the art or music department in your school. Have the teacher explain the facilities found there. (It is suggested that arrangements for the visit be made well ahead of the visit.)

10. Conduct one or more of the following activities which relate to advertising occupations:
    a. Arrange to visit a newspaper publishing company, radio or television station, printer, photographer, or an advertising agency that employs people in the advertising occupations. Since most people enter these occupations as clerks, assistants, or copywriters, find out what the typical day of work is like in such positions. Get someone to show you how advertisements are prepared, including planning, supervision of, textwriting, illustration, layout, and reproduction. Find out how many people are required to develop the advertisement.
       Refer to Appendix E.
    b. Make a poster to be displayed in the classroom, using the following procedure:
       (1) Decide upon the size of the poster and the materials.
       (2) Decide upon a product or service you would like to advertise. Be creative.

(3) Poll students in the classroom to determine interest in the product or service.

(4) Get information on other products or services similar to your selection: prices, sales, and methods of advertising.

(5) Find out the advantages and disadvantages your product or service has in relation to competing products and services.

(6) Create jingles, make up slogans, and write the descriptive information to be included on the poster. Attract the attention of your classmates!

(7) Determine how you are going to arrange the layout of the slogans, jingles, illustrations, and descriptive information on the page. Determine the size of illustrations and print to use on the poster.

(8) Complete the poster. Do your own printing by hand, using various sizes, shades, and colors. Use illustrations from magazines, newspapers, etc., or do your own illustrating, using various shades and colors. You may find ideas in books, magazines, newspapers, television commercials, billboards, or store window displays.

(9) Place the poster so persons inside and outside the classroom can view it for study. Observe the reactions of those who view the poster.

c. Read the following book:

Johnson, George. *Your Careers in Advertising.*
Available from: Julian Messner
1 West 39th Street
New York, New York 10018

11. Conduct one or more of the following activities which concern the performing arts:

a. Plan to work with your communications teacher in the following activities (those interested in music should work with the music teacher):

(1) Obtain a copy of a short drama or comedy that contains parts for acting, dancing, and/or singing.

(2) Select a character from the play; study his personality traits, gestures, and attitudes. Determine his relationship to the overall scheme of the play.

(3) Learn (memorize) about 25 lines that are spoken by the character you have selected.

(4) Practice presenting the character, in voice, song, or dance, as you believe he should be presented.

(5) Having read, studied, and memorized the lines, audition before the speech or English teacher (communications teacher) or the music teacher. Have the teacher criticize your performance.

b. Audition for a part in a school play or in some other local production.

c. Attend a locally-produced play. Observe the costumes, stage setting, and lighting. Notice the makeup of the performers. Interview at least one performer after the presentation.

d. Participate in talent shows sponsored by the school, civic clubs, and churches.

e. Plan to see one of the following films:

(1) *Ballerina.*
Available from: Canadian Consulate General
Suite 2110, International Trade Mart
2 Canal Street
New Orleans, Louisiana 70130

(2) *Music: Career or Hobby?*
Available from: Coronet Films
65 E. South Water Street
Chicago, Illinois 60601

f. Read one of the following books:

(1) Curtis, Robert. *Your Future in Music.*
Available from:
Richards Rosen Press, Inc.
29 East 21st Street
New York, New York 10010

(2) Denis, Paul. *Opportunities in a Dancing Career.*
Books numbers 2, 3, and 4 are available from:
Vocational Guidance Manuals
235 East 45th Street
New York, New York 10017

(3) Moore, Dick. *Opportunities in Acting.*

(4) Spaeth, Sigmund. *Opportunities in Music Careers.*

(5) Hirchfield, Burt. *Stagestruck: Your Career in the Theatre.*
Available from:
Julian Messner
1 West 39th Street
New York, New York 10018

(6) Taylor, Theodore. *People Who Make Movies.*
Available from:
Doubleday and Company, Inc.
501 Franklin Ave.
Garden City, New York 11530

(7) Ward, John Owen. *Careers in Music.*
Available from:
Henry Z. Walck, Inc.
19 Union Square West
New York, New York 10003

12. Conduct the following activities that concern occupations in architecture:

a. Use your imagination to design a modern building. Sketch the building on paper. Write a report in which you tell how the building should be located on the lot, type of foundation you think should be used, materials used in construction, and how much you think the materials and labor would cost. You may use building materials and building construction books as research materials. The report should be at least three pages long.

b. Consult with your mathematics teacher to arrange a series of math problems dealt with in architectural work. For example, how would you figure the total square foot area required for a wall foundation footing when the load- and soil-bearing capacity is given? How would you figure the size air-conditioning unit needed for a house with 1200 square feet of floor space? (Such problems and solutions can be found in building materials and construction books, and drafting books.)

c. Consult with the drawing instructor in arranging to draw a floor plan for a house, giving dimensions and notes. Study a mechanical or an architectural drawing book to discover how to practice lettering, use instruments, etc.

d. Plan to view the following filmstrip:
Architecture and Your Life. 1963. Silent. 50 frames.
Available from:
American Institute of Architects, Librarian
1735 New York Avenue, Northwest
Washington, D. C. 20006

13. The following activities relate to interior decorating and designing occupations. Conduct those which interest you.

a. Work with the home economics teacher with the following activities:

(1) Determine some factors to take into consideration when planning the arrangement of furniture in a home, selection of furniture (including colors), draperies, floor coverings, etc.

(2) Sketch plans for furniture arrangement for a large living room or office. Use colors in completing the work.

(3) Make a study of the various paints, wallpaper, and fabrics used in interior decorating.

b. Tour the lobby of a motel or doctor's office to view the arrangement of furniture, fabrics from which the draperies are made, wall decorations, wall colors, floor covering, and other physical features of the room. Tell about your findings in a written report that is three pages or more in length.

c. Read the following book:

Ball, Victoria. *Opportunities in Interior Design and Decorating.*
Available from: Vocational Guidance Manuals
235 E. 45th Street
New York, New York 10017

14. Conduct the following activities related to the work of industrial designers.

   a. Select a product such as a household appliance, cooking utensil, or an automobile. Use your imagination to modify certain features of the product that would make it more useful.

   b. Make a two- or three-view drawing of a familiar object in your home, showing dimensions and notes. Study a mechanical drawing book to discover how to do some lettering and to learn how to use drawing instruments. Secure the assistance of a mechanical drawing or drafting teacher.

15. Conduct one or more of the activities listed below. These relate to clothing and modeling occupations.

   a. Work with the home economics teacher for the following:

      (1) Without the use of patterns and illustrations, sketch your idea for a piece of clothing for a male or female.

      (2) Develop on paper the pattern for making the garment.

      (3) Cut out the pattern pieces.

      (4) Pin the paper pieces together with straight pins (on a model if possible).

      (5) Make any modifications you think necessary.

      (6) You may wish to try sewing a garment from your design.

   b. Tour a department store to see which fabrics and styles are being bought.

   c. Arrange to see the following filmstrip:

   The Designer. 1961. 11½ min., color.
   Available from: National Cotton Council of America
   Audio Visual Services
   P. O. Box 12285
   Memphis, Tennessee 38112

   d. Read the following books:

      (1) Fashion Group, Inc. *Your Future in Fashion Design.*
      Available from: Richards Rosen Press, Inc.
      29 East 21st Street
      New York, New York 10010

      (2) Head, Edith. *Fashion As a Career.*
      Available from: Julian Messner
      1 West 39th Street
      New York, New York 10018

e. Interview the home economics teacher. Find out what personal characteristics an individual must possess in order to be a successful model. Check out reading material about fashion careers.

Refer to Appendix F.

f. Interview a local clothing store owner, manager, or buyer who employs models either part-time or full-time. Ask for professional opinions concerning your chances for success as a model.

Refer to Appendix F.

g. Apply for a job modeling teen-age styles at a local clothing store during out-of-school hours.

16. Conduct the following activities which concern photography:

a. Join the camera club in your school if there is such an organization. Learn how to take as many different kinds of pictures, using as many different kinds of cameras, as possible. Try developing pictures in a darkroom, cutting pictures to desired sizes, enlarging, and retouching pictures. Acquire a photography book and study the methods and techniques of taking pictures, developing pictures, enlarging, and retouching.

b. Arrange to visit a photography studio. While there, observe the activities of the photographer as he takes portraits. Interview the photographer to find out about the requirements of photography careers, methods of entering and advancing in the field, earnings, and fringe benefits.

Refer to Appendix E.

Additional Occupations:

Additional occupations included in the OEK which may be classified in the Arts and Entertainment Group are listed below:

Display Workers (OEK 40) (DOT 298.081)
Commercial Artists (OEK 65) (DOT 141.081)
Physical Education Teachers (OEK 135) (DOT 153.228)
Cartoonists (OEK 141) (DOT 144.081)
Medical Illustrators (OEK 144) (DOT 141.081)
Museum Workers (OEK 219) (DOT 102)
Press Photographers (OEK 264) (DOT 143.062)
Free-Lance Writers (OEK 275) (DOT 130.088)
Playwrights (OEK 295) (DOT 131.088)
Marina Workers (OEK 365)
Ballroom Dancing Teachers (OEK 374) (DOT 151.028)
Instrumental Music Teachers (OEK 384) (DOT 152.028)
Composers (OEK 396) (DOT 152.088)
Scene Designers (OEK 398) (DOT 142.061)
Scriptwriters (OEK 399) (DOT 131.088)

Additional Activities:

1. Have students discuss the following situation:

WHAT WOULD YOU DO?

Harold is the star football player at his high school. The coach feels that Harold will have his choice of sports scholarships at a number of schools next year.

People have begun to offer Harold all kinds of advice. Most people say that if Harold goes to a school which has a famous football team, he will have a better chance for a good offer from the pros in later years.

Harold feels frustrated. He would like to go to Jones University which is near his home. This is the university where most of his friends will go. Jones University has a good football team, but they do not have national ranking.

If Harold goes to State University, he will be part of a team which has won ranking in the top five teams several years straight. However, State University is 500 miles from home and none of his friends will attend.

What would you do?

Students may learn about Arts and Entertainment occupations through participating in school activities such as the band.

2. Students may use this form to relate the importance of school subjects to various jobs in the Arts and Entertainment category. They should complete the chart with jobs which interest them most.

SCHOOL SUBJECTS AND JOBS*

Fill in Job Blanks	Speech	English	Writing	Math	Science	Social Studies	Art	Music	Shop & Home Ec.	Other	Other

Make code entries on chart.

CODES:		
	E - Essential	Subject matter is absolutely necessary for success on the job or for completion of educational requirements for the job.
	I - Important	The subject matter is important to success on the job, although it may not always be an absolute requirement.
	U - Useful	The subject is very useful for the job and is usually directly related.
	S - Somewhat Useful	The subject is somewhat useful for the job.

***Career Exploration, A Guide for Teachers.** (Oklahoma State Department of Vocational and Technical Education), p. 37. Printed with permission.

Suggested Review Survey:

Circle the best answer.

T F 1. Most professional athletes must work on holidays and weekends when other persons are relaxing.

T F 2. Our economy would be stronger and prices lower if all types of advertising were eliminated.

T F 3. A majority of the registered architects are self-employed.

T F 4. Most interior decorator-designers are employed with large department and furniture stores located in large cities.

T F 5. Actors, actresses, musicians, and dancers may be required to travel a great deal in their jobs.

T F 6. Many models must work at other jobs during slow periods.

T F 7. Employment in advertising occupations in found primarily is advertising agencies, manufacturing companies, stores, and other sales organizations.

T F 8. Most professional musicians and singers perform in New York, Chicago, and Los Angeles.

T F 9. Most people could be successful as professional athletes if they only tried hard enough.

T F 10. The major center for employment of designers is New York.

Answers to suggested review survey: 1. T; 2. F; 3. F; 4. T; 5. T; 6. T; 7. T; 8. T; 9. F; 10. T.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Free Printed Materials:

Architect

DESIGNING A BETTER TOMORROW 30 a

SHOULD YOU BE AN ARCHITECT? 136 d

Art Teacher

TEACHING ART AS A CAREER 81 a

COMIC ART 121 a

COMMERCIAL ARTIST, THE 4a

YOUR CAREER IN ART 141 a

Copywriter

COPYWRITER, THE 4b

Industrial Designer

CAREERS IN INDUSTRIAL DESIGN 99 a

Musician

MUSIC IS YOUR BUSINESS 23 a

Photographer

CAREERS IN PHOTOGRAPHY 95 a

FOCUS ON YOUR FUTURE 142 a

Professional Athlete

BASEBALL, THE GAME, THE CAREER, THE OPPORTUNITY 117 a

Writer

JOBS AND OPPORTUNITIES FOR WRITERS 176 a

Free Films:

Fashion Designer

FASHION: THE CAREER OF CHALLENGE 182 a

Interior Decorator

CREATIVE WORLD OF INTERIOR DESIGN (3184) 201 d

Marina Operators

BOATS NEED PEOPLE 203 a

Supplementary Books and Pamphlets:

Career Series

- OPPORTUNITIES IN ACTING 240 b
- OPPORTUNITIES IN AN ARCHITECTURE CAREER 240 c
- OPPORTUNITIES IN FREE-LANCE WRITING 240 k
- OPPORTUNITIES IN MUSIC CAREERS 240 t
- OPPORTUNITIES IN RECREATION AND OUTDOOR EDUCATION 240 j2
- OPPORTUNITIES IN TRAVEL CAREERS 240 s2

Careers in Depth

- YOUR FUTURE IN ARCHITECTURE 236 f
- YOUR FUTURE IN FASHION DESIGN 236 b2
- YOUR FUTURE IN THE FASHION WORLD 236 k4
- YOUR FUTURE IN INTERIOR DESIGN 236 o2
- YOUR FUTURE AS A MODEL 236 b3
- YOUR FUTURE IN MUSEUMS 236 c3
- YOUR FUTURE IN NAVAL ARCHITECTURE 236 f3
- YOUR FUTURE IN PHOTOGRAPHY 236 s3

CONCISE HANDBOOK OF OCCUPATIONS 226 a

COWLES GUIDE TO CAREERS AND PROFESSIONS 219 a

ENCYCLOPEDIA OF CAREERS AND VOCATIONAL GUIDANCE 226 b

HANDBOOK OF JOB FACTS 237 b

OCCUPATIONAL LITERATURE, AN ANNOTATED BIBLIOGRAPHY 225 a

OCCUPATIONS AND CAREERS 230 b

ON THE JOB 226 c

Tapes:

American Occupations Series (Educational Sensory Programming)

- ACTOR — ACTRESS 242 z
- DANCERS/MUSICIANS AND MUSIC TEACHERS 242 a2
- SINGERS AND SINGING TEACHERS/COMMERCIAL ARTISTS 242 b2
- INTERIOR DECORATOR 242 c2
- ARCHITECTS 242 j2
- MODELS/PHOTOGRAPHERS 242 n2

Imperial Interview Tapes

- COMMERCIAL ARTIST 243 b2

COMMERCIAL PHOTOGRAPHER 243 f
MUSICIAN 243 r
ARCHITECT 243 o2

XV. Locating And Applying For A Job

You will enter the world of work when you get a job. Getting a job involves first locating work and then applying for it. Most of the time this is relatively easy to do. Many times, however, considerable planning and effort may be required. With a little understanding of how work is found and applied for, you should be able to successfully get a job. This unit is designed to assist you in entering the world of work.

The following questions are discussed in this unit:

1. **How are jobs located?**
2. **How is application made for a job?**
3. **What should be considered when preparing for a personal interview?**
4. **What does an employer want to know about a job seeker?**
5. **What should a job seeker learn about the employer?**

1. How are jobs located?

Jobs are located in several ways. It is a good idea to know the different ways that are commonly used. In addition, it should be pointed out that persons should attempt to locate only those jobs for which they are qualified. Some common sources of help in locating jobs are (1) employment offices, (2) placement offices, (3) various news media, (4) family and friends, and (5) direct calling.

Employment Offices. There are two kinds of employment offices: (1) public and ① (2) private. Public employment offices are operated by the government. The Mississippi Employment Service is an example of a public agency operated by the State of Mississippi.

A person who is looking for a job may go to a public employment agency and fill out an application blank. Frequently, counselors in the public agency will interview each person to determine specific qualifications. A summary of the interview and the completed application blank will be placed in a file of available workers. Public employment agencies usually do not charge fees for their services. Many businesses and industries list jobs with public employment offices.

Private employment agencies charge fees for placing persons in jobs. Such agencies may not consider a person's application unless the person is well qualified to hold a job. Private agencies will frequently have jobs listed that public agencies do not have.

Placement Offices. Schools and colleges often maintain a placement service to assist students in finding jobs. In schools that do not have such a service, the director, principal, or counselor can usually be of help.

Media. Various news media can help in locating a job. These include newspapers, radio, and television. Perhaps the most useful is the want ad section of a newspaper.

Persons looking for jobs should refer to the "Help Wanted" column of newspapers. Ads should state the kind of work and indicate some of the qualifications necessary for getting the job. Occasionally, misleading ads will appear in papers. These ads tend to glamorize a job or indicate that a person will be required to pay money to get the job. Only the ads which are similar to your interests and which appear honest should be investigated.

Family and Friends. Family members or friends may know of job openings where they work. They can tell you (the job seeker) who to see to apply for a job. They can usually describe the nature of the work and answer questions about the work. Also, they may be willing to recommend you for a job.

Direct Calling. This method of locating a job is used when one does not know if a job opening exists. It involves telephoning various businesses and industries to see if new workers are being hired. The telephone directory may be used as a source of places to call. A person should call only the places which might have jobs related to his specific interests and education. Occasionally, letters of inquiry may be used instead of telephone calls.

2. *How is application made for a job?*

Once a job opening has been located, the next step is to apply for the job. The manner in which an application is made and the appearance of the person making it help determine whether or not he gets the job. Methods of applying for a job include:

② (1) Visiting the business and securing an application blank or having a personal interview. Large businesses may have a personnel officer who is in charge of securing new workers. In other businesses, the manager, foreman, or department head may be the person to contact.

(2) Writing or telephoning to request a job application blank or other information.

(3) Writing a letter of application. A personal data sheet should usually accompany a letter of application.

Want ads and other sources frequently indicate the procedure to follow in applying for a job. The person in charge of hiring new workers will indicate the steps to follow in making application. This person will have application blanks and will be able to indicate other requirements, such as letters of recommendation, medical examinations, and the tests to take.

Most employers use an application blank. This blank must be filled out in order to be considered for a job. Several suggestions on how to complete an application blank are listed below:

(1) Read the blank thoroughly before answering any questions.

(2) Follow the directions on the blank.

(3) Use ink or a typewriter to fill out the blank.

(4) Answer all questions. (Those that do not apply should have a line drawn through them or "NA" written in the appropriate space. "NA" means that the particular question is not applicable.)

(5) Give complete and accurate information.

(6) Spell all words correctly and fully.

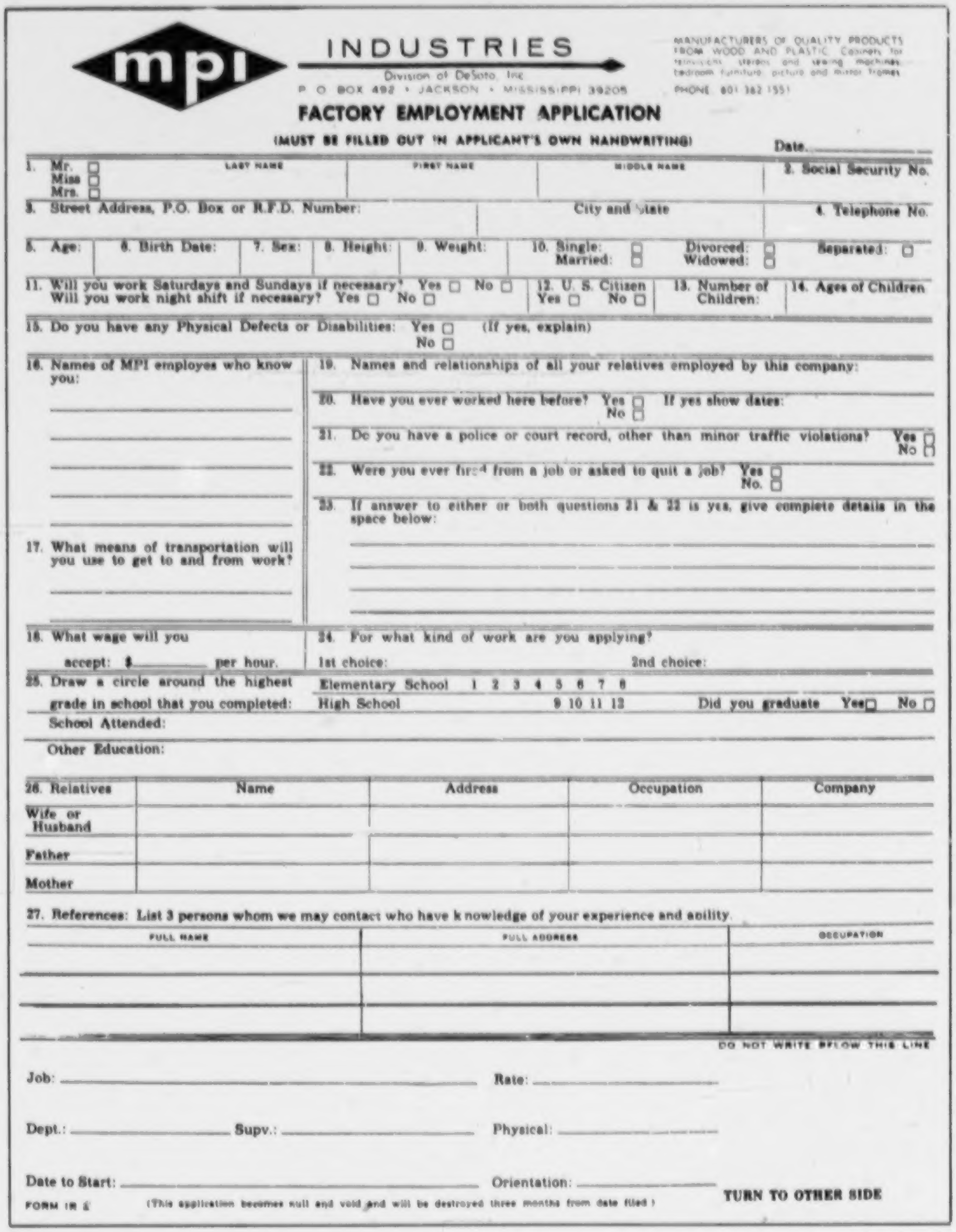
(7) Avoid using abbreviations and nicknames.

(8) Be neat.

(9) Sign the form properly.

(10) List good references. (It is best to secure permission from a person before listing his name as a reference. Examples of references include teachers, ministers, former employers, and qualified friends. Only persons who are familiar with one's background should be listed as references.)

SAMPLE JOB APPLICATION BLANK
(Front)



mpi INDUSTRIES

Division of DeSoto, Inc.
P. O. BOX 492 • JACKSON • MISSISSIPPI 39205

MANUFACTURERS OF QUALITY PRODUCTS FROM WOOD AND PLASTIC. Cabinets for televisions, stereos and sewing machines, bedroom furniture, picture and mirror frames.
PHONE 601 362 1551

FACTORY EMPLOYMENT APPLICATION

(MUST BE FILLED OUT IN APPLICANT'S OWN HANDWRITING)

Date__________

1. Mr. ☐ Miss ☐ Mrs. ☐ LAST NAME | FIRST NAME | MIDDLE NAME | 2. Social Security No.

3. Street Address, P.O. Box or R.F.D. Number: | City and State | 4. Telephone No.

5. Age: | 6. Birth Date: | 7. Sex: | 8. Height: | 9. Weight: | 10. Single: ☐ Married: ☐ Divorced: ☐ Widowed: ☐ Separated: ☐

11. Will you work Saturdays and Sundays if necessary? Yes ☐ No ☐
Will you work night shift if necessary? Yes ☐ No ☐
12. U. S. Citizen Yes ☐ No ☐
13. Number of Children:
14. Ages of Children

15. Do you have any Physical Defects or Disabilities: Yes ☐ No ☐ (If yes, explain)

16. Names of MPI employes who know you:

17. What means of transportation will you use to get to and from work?

18. What wage will you accept: $________ per hour.

19. Names and relationships of all your relatives employed by this company:

20. Have you ever worked here before? Yes ☐ No ☐ If yes show dates:

21. Do you have a police or court record, other than minor traffic violations? Yes ☐ No ☐

22. Were you ever fired from a job or asked to quit a job? Yes ☐ No. ☐

23. If answer to either or both questions 21 & 22 is yes, give complete details in the space below:

24. For what kind of work are you applying?
1st choice: 2nd choice:

25. Draw a circle around the highest grade in school that you completed:
Elementary School 1 2 3 4 5 6 7 8
High School 9 10 11 12 Did you graduate Yes ☐ No ☐
School Attended:
Other Education:

26. Relatives	Name	Address	Occupation	Company
Wife or Husband				
Father				
Mother				

27. References: List 3 persons whom we may contact who have knowledge of your experience and ability.

FULL NAME	FULL ADDRESS	OCCUPATION

DO NOT WRITE BELOW THIS LINE

Job: __________ Rate: __________

Dept.: __________ Supv.: __________ Physical: __________

Date to Start: __________ Orientation: __________

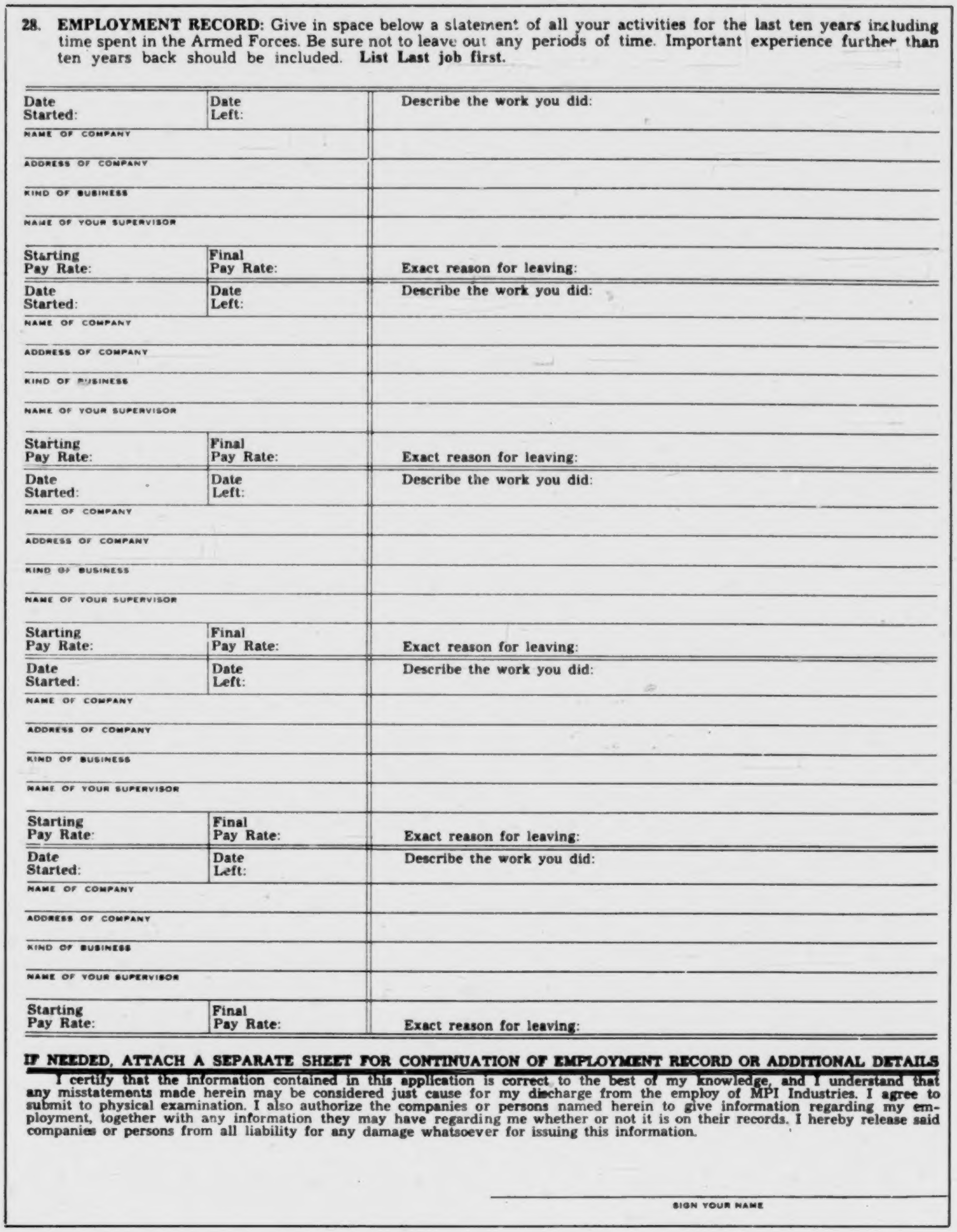
TURN TO OTHER SIDE

FORM IR 2 (This application becomes null and void and will be destroyed three months from date filed.)

(Courtesy MPI Industries, Jackson, Mississippi.)

SAMPLE JOB APPLICATION BLANK

(Back)



28. EMPLOYMENT RECORD: Give in space below a statement of all your activities for the last ten years including time spent in the Armed Forces. Be sure not to leave out any periods of time. Important experience further than ten years back should be included. **List Last job first.**

Date Started:	Date Left:	Describe the work you did:
NAME OF COMPANY		
ADDRESS OF COMPANY		
KIND OF BUSINESS		
NAME OF YOUR SUPERVISOR		
Starting Pay Rate:	Final Pay Rate:	Exact reason for leaving:
Date Started:	Date Left:	Describe the work you did:
NAME OF COMPANY		
ADDRESS OF COMPANY		
KIND OF BUSINESS		
NAME OF YOUR SUPERVISOR		
Starting Pay Rate:	Final Pay Rate:	Exact reason for leaving:
Date Started:	Date Left:	Describe the work you did:
NAME OF COMPANY		
ADDRESS OF COMPANY		
KIND OF BUSINESS		
NAME OF YOUR SUPERVISOR		
Starting Pay Rate:	Final Pay Rate:	Exact reason for leaving:
Date Started:	Date Left:	Describe the work you did:
NAME OF COMPANY		
ADDRESS OF COMPANY		
KIND OF BUSINESS		
NAME OF YOUR SUPERVISOR		
Starting Pay Rate:	Final Pay Rate:	Exact reason for leaving:
Date Started:	Date Left:	Describe the work you did:
NAME OF COMPANY		
ADDRESS OF COMPANY		
KIND OF BUSINESS		
NAME OF YOUR SUPERVISOR		
Starting Pay Rate:	Final Pay Rate:	Exact reason for leaving:

IF NEEDED, ATTACH A SEPARATE SHEET FOR CONTINUATION OF EMPLOYMENT RECORD OR ADDITIONAL DETAILS

I certify that the information contained in this application is correct to the best of my knowledge, and I understand that any misstatements made herein may be considered just cause for my discharge from the employ of MPI Industries. I agree to submit to physical examination. I also authorize the companies or persons named herein to give information regarding my employment, together with any information they may have regarding me whether or not it is on their records. I hereby release said companies or persons from all liability for any damage whatsoever for issuing this information.

SIGN YOUR NAME

(Courtesy MPI Industries, Jackson, Mississippi.)

(11) Apply for a specific job (list the job on the application blank, if requested.)

Frequently it is necessary to prepare a letter when applying for a job. These are known as "letters of application." Sometimes letters of application are preferred to just the completion of an application blank. Letters of application are used as follows:

③ (1) When an ad requests that applications be made by letter.

(2) When the employer requests a letter of application.

(3) When other methods of application are not convenient. (For example, when one is applying for a job in another town.)

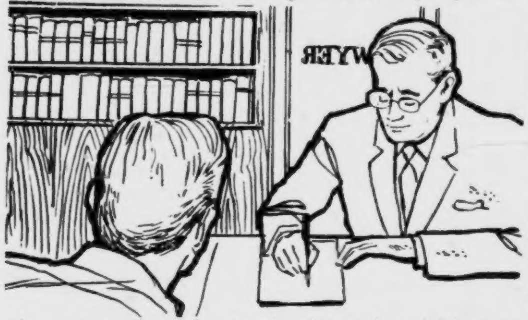
(4) When the job demands it. (Certain high-level positions may be best applied for by letter. The letter serves as a record of the contact.)

Letters of application should be well written and neatly prepared. Letters should be in ink or typewritten. They should *not* be used to "sell" one's self to the employer. Neither should a letter state how badly one needs a job. Letters should be honest and straightforward.

④ Personal data sheets are used to supplement letters. They give specific personal information that is not included in a letter or application blank. Personal data sheets should be typewritten, or, if a typewriter is not available, written in ink. A definite format should be used. A sample personal data sheet is shown on page 181.

3. What should be considered when preparing for a personal interview?

Very few jobs are filled before the applicant is interviewed. A job interview is a normal part of getting work and may be the most important part. Interviews are helpful to the job seeker and to the employer. They provide an opportunity for the job seeker to learn more about the employer and give the employer an opportunity to personally assess the job seeker.



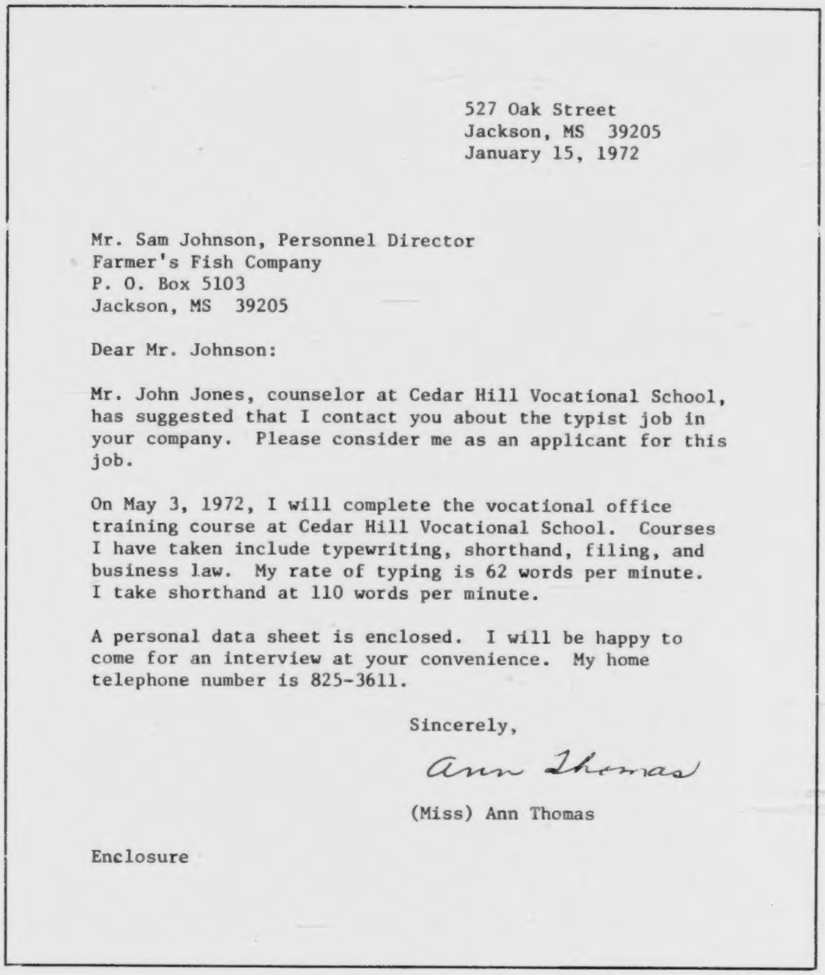
Job interviews are usually conducted by the employer or his representative. In small businesses the owner may do the interviewing. In large businesses a personnel manager or department head may conduct the interview.

A job seeker needs to make a good impression during an interview. Frequently, the decision to hire someone is based on the impression the person conducting the interview gets of the job seeker. It is a good idea to give some thought to the interview before going for it. One needs to have in mind the exact job for which he is applying. He also needs to learn a little about the business to which he has applied.

⑤ A job seeker should have the following items with him during an interview:

Social Security card
Personal data sheet
Pen and pencil
Completed application blank and other forms

A sample letter of application is shown below:



527 Oak Street
Jackson, MS 39205
January 15, 1972

Mr. Sam Johnson, Personnel Director
Farmer's Fish Company
P. O. Box 5103
Jackson, MS 39205

Dear Mr. Johnson:

Mr. John Jones, counselor at Cedar Hill Vocational School, has suggested that I contact you about the typist job in your company. Please consider me as an applicant for this job.

On May 3, 1972, I will complete the vocational office training course at Cedar Hill Vocational School. Courses I have taken include typewriting, shorthand, filing, and business law. My rate of typing is 62 words per minute. I take shorthand at 110 words per minute.

A personal data sheet is enclosed. I will be happy to come for an interview at your convenience. My home telephone number is 825-3611.

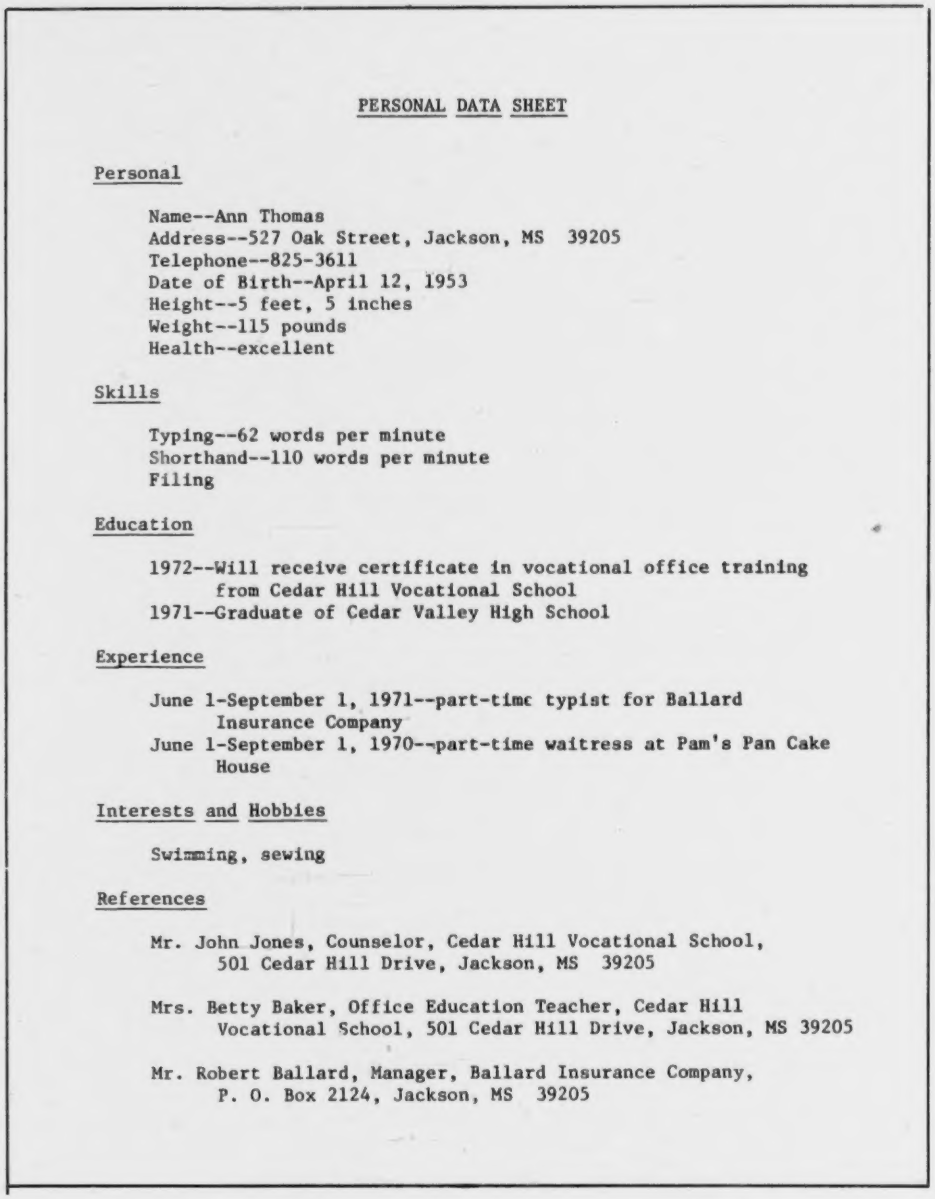
Sincerely,

Ann Thomas

(Miss) Ann Thomas

Enclosure

A sample personal data sheet is shown below:



PERSONAL DATA SHEET

Personal

Name--Ann Thomas
Address--527 Oak Street, Jackson, MS 39205
Telephone--825-3611
Date of Birth--April 12, 1953
Height--5 feet, 5 inches
Weight--115 pounds
Health--excellent

Skills

Typing--62 words per minute
Shorthand--110 words per minute
Filing

Education

1972--Will receive certificate in vocational office training from Cedar Hill Vocational School
1971--Graduate of Cedar Valley High School

Experience

June 1-September 1, 1971--part-time typist for Ballard Insurance Company
June 1-September 1, 1970--part-time waitress at Pam's Pan Cake House

Interests and Hobbies

Swimming, sewing

References

Mr. John Jones, Counselor, Cedar Hill Vocational School, 501 Cedar Hill Drive, Jackson, MS 39205

Mrs. Betty Baker, Office Education Teacher, Cedar Hill Vocational School, 501 Cedar Hill Drive, Jackson, MS 39205

Mr. Robert Ballard, Manager, Ballard Insurance Company, P. O. Box 2124, Jackson, MS 39205

Several things should be remembered about interviews. Perhaps the most important is to let the interviewer do most of the talking and to think before answering questions. All questions should be answered honestly and politely. Several tips on how to make a good impression during an interview are listed below:

> Be familiar with the firm and its business. If you have the opportunity, show some interest in the welfare and progress of the firm.
>
> Arrive on time for the interview and alone. The employer wants to talk with you, not your parents, relatives, or friends.
>
> Know the person you are to see and occasionally call him by his name during the interview. Be friendly but not familiar.
>
> Be honest about what you can do and what you like to do. Do not claim you "can do anything" because you can't.
>
> Be dressed suitably. Fancy overdress is not in good taste either before or after you get the job. Sloppy or slouchy dress also is in poor taste.
>
> You may have to wait. If so, be patient and wait graciously. Don't pace the floor, shuffle around, or show impatience.
>
> Do not smoke or chew gum during the interview.
>
> In a private office or any time during the interview, show good manners. . . take your hat off and stand until invited to be seated.
>
> The employer knows more about the job and his business than you do, so let him do most of the talking.
>
> Speak clearly, confidently, courteously. . . answer all questions completely. An occasional smile will be a big help.
>
> Do not criticize others, either previous employers or your associates.
>
> Do not be afraid of an interview. Most employers are patient and considerate. If you have something to offer, be confident. He is looking for good workers and you are looking for a good job.
>
> (Adapted from materials supplied by the Mississippi Employment Security Commission, Jackson, Mississippi.)

4. *What does an employer want to know about a job seeker?*

Employers are going to hire workers who can get a job done. Businesses, industries, and government agencies must have workers who are productive. Before a worker is hired, the employer attempts to learn about the job seeker. The employer tries to determine if the job seeker has the ability and energy to do the required work.

⑥ Before a worker is hired, employers usually want to know three things:

(1) the person's attitude toward people and work.

(2) the person's education and work experience.

(3) the person's career plans.

In order to determine these things, a job application blank and personal interview are used. Letters of recommendation are also helpful to employers. Below is a list of questions that employers often ask:

1. What job are you applying for?
2. Why did you apply to this company?
3. Do you want permanent or temporary work?
4. What classes did you like best in school?
5. Did you graduate from high school? college? vocational school?
6. What jobs have you previously held?
7. Why did you leave these jobs?
8. What are your qualifications for this job?
9. Are you in good health?
10. How much pay do you want to receive?
11. Do you drink, smoke, or use drugs?
12. Were you absent from school very often? Why?
13. Would you be willing to work overtime?
14. Do you have friends or relatives working for our company?
15. What were your grades in school?
16. Do you prefer to work with other people or by yourself?
17. What are your hobbies?
18. When can you start to work?
19. Have you completed a job application blank?
20. What do you like to do most? Least?
21. Are you married?
22. What are your plans for 10 years from now?
23. How many children do you have? What are their ages?
24. Where do you live?
25. How will you get to work each day?

5. What should a job seeker learn about the employer?

A job seeker should attempt to determine if a particular job is the right one for him. Persons should not be too choosy, however. Those who are hard to please may find themselves without a job. One of the advantages of a job interview is that it permits a person to learn more about the job and employer. Other ways to find out about an employer are (1) to talk to older employees and (2) to read brochures which the employer may provide. It is also a good idea to compare two or three employers.

Several things should be considered before a job is accepted. Eleven questions which a person should attempt to answer for himself are listed below:

1. What will I do on the job?
2. Do I have the ability to do the work?
3. Who will be my boss?
4. What are the working conditions?
5. What will I be paid? How much?
6. Will I have to move? If so, who will pay the costs of moving?
7. What kinds of tools are needed? Will I have to buy them?
8. Will I have to work overtime? At night? On weekends?
9. How will I dress? Will I have to buy uniforms?
10. What is the possibility of advancement?
11. Will I have the opportunity for additional training and education?

Goal:

Students should become familiar with the common sources for locating jobs and learn how to apply for them.

After the students have read Chapter XV, have them discuss the following questions:

Review Questions:

1. What are the two kinds of employment offices? p. 175
2. What are the methods of applying for a job? p. 176
3. When is a letter of application needed? p. 179
4. Why are personal data sheets used? p. 179
5. What should a person take with him to an interview? p. 179
6. What are the three main things an employer wants to know about a job seeker? p. 182

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Review the "Help Wanted" column in a newspaper. Cut out all ads which offer jobs in which you may be interested.
   Refer to Appendix I.
2. Role play a job interview. One person will be needed as a personnel director. You can be the job seeker. Remember to apply for a specific job and to make a good impression.

   Have students rate the job seeker on the type of impression made. Students may also rate the person acting as personnel director.

3. Obtain several job application blanks from nearby businesses. Practice filling them out.

   Businesses such as banks, retail stores, utility companies, and manufacturers are usually willing to provide students with job application blanks. If job application blanks cannot be secured locally, the sample job application blank on pages 177 and 178 may be duplicated.

   Perhaps personnel directors from local firms may be willing to evaluate job application forms completed by students and give suggestions concerning the completing of forms.

4. View one or more of the following films:
   Job Interview: Women
   Job Interview: Men
   Your Job: Finding the Right One
   Your Job: Applying For It

The above films are available from:

Curriculum Coordinating Unit, Film Library
P. O. Drawer DX
State College, Mississippi 39762

5. **Invite the director of personnel from a local business to visit class. Have him explain how he conducts job interviews and what he looks for in a job seeker.**

   The director of personnel may consent to conduct a mock interview with one of your students.

6. **Develop a personal data sheet for yourself.**

   Students may use the personal data sheet on page 181 as a guide.

7. **Prepare a letter of application for a fictitious job. Secure the assistance of the communications, business education, and occupational orientation teacher, if needed.**

   Students may use the letter of application on page 180 as a guide.

Additional Activities:

1. Have students discuss the following situation:

WHAT WOULD YOU DO?

Roger wants to learn to be an electrician. He is trying to find a position as an apprentice so that he can learn the trade.

Roger has good grades in school and received excellent references from his teachers. However, Roger has interviewed for several jobs and has not received an offer.

The counselor at the employment office has suggested that he might have success if he would cut his rather long hair. Roger wants very badly to be an electrician, but he feels that people should accept him as he is.

What would you do?

2. The following cases are about girls who had difficulty securing or holding jobs. Students may discuss the mistakes made by the girls and suggest more positive approaches which they could have taken.

CASE STUDIES IN OBTAINING AND HOLDING JOBS*

CASE I.

Sandra Z. first applied at an employment service office at the age of 16. She said she needed a job urgently because she was living with her sister. When she reported to the employer and was told her wages, she immediately replied that friends advised her not to work for those wages and that she wasn't interested. The employer contacted the counselor and said that he would not hire this applicant under any circumstances. Her attitude and manner were so unsatisfactory that he felt she should not be referred again.

CASE II.

Mary S., 19, is tall and attractive. She went to art school in Cleveland for half a year, was dissatisfied and quit in Feburary. The employment office referred her to a job that did not require experience but included Saturday work. She informed the employer that she wanted Saturdays free to visit friends in Cleveland.

When given the name of the person with whom she would be working, Mary exclaimed, "Oh, her, I fought with her all through high school." Needless to say, Mary did not get the job. The employer reported that he did not consider her mature enough.

CASE III.

Lenore had excellent experience as an accounting clerk, stenographer, and general office clerk. She was also an efficient typist. She was, however, quite short; her hair was long and uncombed; and her clothing was loud. She was referred to a large industrial plant for a job as accounting and payroll clerk.

The personnel manager said that he wished he could employ her, but because of her appearance he feared she would not fit in with the other girls in the office. Her lack of neatness and poor taste in clothing resulted in her not being hired.

CASE IV.

Mary wanted a job with hours like those she had while attending school. The job must also be in her neighborhood; she did not want to travel downtown; the working conditions must be just right with pleasant surroundings and congenial co-workers. Mary insists on these special requirements and is still unemployed.

*Span, A Curriculum Guide for Occupational Orientation and Exploration.** (Board of Education, Memphis City Schools), pp. 64-65. Printed with permission.

CASE STUDIES continued:

CASE V.

Agnes was placed with a local newspaper. Her duties were proofreading and teletyping. After two days she quit without notice and reported to the counselor that she disliked the job because the major work was proofreading.

CASE VI.

June graduated from a high school commercial course and was sent to her first job as a stenographer at $45 a week. She worked about 10 days and then quit. Her duties, she said were too varied; she wanted more stenographic work. The counselor found her another job at the same rate of pay per week. She worked only one day because the dictation was too heavy.

NOTE: THE TEACHER CAN MAKE UP SITUATIONS TO PINPOINT IDEAS TO INDIVIDUALS IN THE CLASSROOM WITHOUT EMBARRASSING THEM OR SINGLING THEM OUT.

3. Ask for volunteers to play the roles of Miss Anders and Pete.

THE DROPOUT LOOKS FOR A JOB*

As industry uses more and more automation, jobs for unskilled workers are rapidly disappearing. One study shows that such jobs are disappearing at the rate of 250,000 each year. What do you suppose will happen to the teenagers who drop out of school before they are prepared for jobs?

The following scene takes place in the employment office of a large electric utility company. Pete is seated in front of a desk. Behind the desk is Miss Anders, a personnel interviewer.

ANDERS: What kind of job are you looking for, Pete?

PETE: Oh, I don't know. Just anything, I guess, Miss Anders.

ANDERS: Tell me about your qualifications.

PETE: My what?

ANDERS: Your qualifications. What would you have to offer our company that would make us want to hire you?

PETE: Well, I like to fuss around with telephone lines.

ANDERS: But we're not a telephone company. We're an electric utility company. What qualification do you have for our company?

PETE: Guess I don't have any.

ANDERS: Tell me, Pete, how did you get along in school?

PETE: Not so good, I guess. The teachers always yapped about me being late, and they gave dumb tests about things I'd never use; so I quit.

ANDERS: Well, Pete, I can tell you this. If you have a job, your boss expects you to be on time.

PETE: I would be — if I had a job. That's different from school.

ANDERS: Are you sure? Don't you know that when you're in school, that's your job?

PETE: But you don't get paid.

ANDERS: Not in money, but you're preparing yourelf for a future job that does pay. The more education you have, the more the job pays. Your teachers are fussy about your being on time, doing your assignments, and taking tests. They are trying to help you learn good work habits.

PETE: But you don't have to take tests on a job . . .

***Span, A Curriculum Guide for Occupational Orientation and Exploration.** (Board of Education, Memphis City Schools), pp. 79-82. Printed with permission.

SKIT continued:

ANDERS: Oh, yes you do, Pete, each one of our employees is on probation for six months. During this period he's on trial. At the end of six months he is graded by his supervisor, who turns in the grades and a long report to us. If the grade is satisfactory, the employee enters another probationary period. He must complete this period successfully before he's given permanent employment.

PETE: Guess I didn't know.

ANDERS: Did you know that before we hire anyone we check his grades at school?

PETE: Gosh, I'm a dead duck then.

ANDERS: Pete, you know how the baseball team managers go all around the country trying to find the very best qualified men for their teams.

PETE: Sure, they gotta have a good team.

ANDERS: Yes, they do. So does any business. Every businessman wants the very best qualified person he can find for any job opening that comes up. He's going to check applicants for attendance and punctuality, for grades, for attitude, for their interest in taking part in school activities.

PETE: You're saying that I don't have a chance, aren't you?

ANDERS: Right now, yes, Pete. You need more education. Look at your application form. What is this first word?

PETE: It says "print."

ANDERS: Exactly. But you wrote instead of printing. This tells me that you don't follow directions well.

PETE: But my printing is terrible.

ANDERS: What about these empty spaces?

PETE: I just didn't know what to put in them. I don't know what some of the words mean.

ANDERS: Marital status? We merely want to know whether or not you are married.

PETE: Oh!

ANDERS: I'm trying to help you for your next application, Pete . . . Remember when I asked you what kind of job you were looking for and you said "just anything?"

PETE: Well, I am. I'm looking for a job. I'll take anything.

ANDERS: But, Pete, can't you see how we look at a statement like that?

PETE: No, I can't.

ANDERS: Before you apply for a job, you need to find out all you can about the company. Then you decide if you have any skills to offer for a particular job. Believe me, Pete, you must have something definite to offer. There's too

SKIT continued:

much competition for jobs that don't require a great deal of education and training. There are about seven million young dropouts like you competing for the few jobs open for unskilled help.

PETE: Wow! Makes a guy stop to think, doesn't it?

ANDERS: It should, Pete. Why don't you give it some serious thought? Then decide what you should do?

PETE: Thank you, Miss Anders, I will.

ANDERS: And remember, Pete, good habits are your servant; bad habits are your master.

FILL IN THE BLANK SPACES BELOW

1. What kind of job did Pete say he was looking for? ____________________
____
2. Why did Pete say he quit school? ____________________
____
3. What did Miss Anders say about school as a job? ____________________
____
____
4. Do business organizations have any kind of test for their employees? ______
____
5. Employers usually check with schools about the qualifications of a person applying for a job. Name three things they check for. ____________________
____
6. What impression of Pete did Miss Anders get from the way he filled out the application form? ____________________
____
7. What does marital status mean? ____________________
____
8. Name two things you should do before applying for a job. ______________
____
9. Should a job applicant say he will do just anything? And why? ____________
____
____
10. With how many dropouts was Pete competing for a job? ______________

SKIT continued:

11. MATCH THE DEFINITIONS

_____ 1. qualifications

_____ 2. automation

_____ 3. assignment

_____ 4. probation

_____ 5. applicant

_____ 6. punctuality

_____ 7. attitude

_____ 8. competition

a. a person who asks for a job

b. promptness

c. the way a person looks at things

d. a person who works hard

e. the abilities that are needed to fill a certain job

f. a contest; rivalry

g. the use of machines to do work that used to be done by people

h. work given to be done; tasks

i. a trial period

12. What do you think Miss Anders meant when she said, "Good habits are your servant; bad habits are your master"?

13. Why do you think Miss Anders did not hire Pete?

14. Do you agree or disagree with Miss Anders's judgment about Pete?

15. We get an idea of what Pete thought about his teachers. What do you think the teachers thought about Pete?

Suggested Review Survey:

Circle the best answer.

T F 1. The personal interview provides an opportunity for both the job seeker and the employer to learn more about each other.

T F 2. The media includes newspapers, radio, and television.

T F 3. If some questions on the application form do not apply to you, a line or NA should be written in the answer space.

T F 4. Placement offices are maintained by some schools and colleges to assist students in finding jobs.

T F 5. An application letter should be neatly written, honest and straightforward, and should ask that you be considered for the job.

T F 6. The job seeker should make a point to talk more than the interviewer so that he will not seem shy.

T F 7. A private employment office usually works only with male job applicants.

T F 8. Public employment agencies usually do not charge fees.

T F 9. An application form gives the job seeker an opportunity to find out more about the employer.

T F 10. The personal data sheet gives information not included in the application letter or application form.

Answers to suggested review survey: 1. T; 2. T; 3. T; 4. T; 5. T; 6. F; 7. F; 8. T; 9. F; 10. T.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Free Printed Materials:

CAN I GET A JOB? 93 h

CAN I MAKE THE PRODUCTION TEAM? 93 i

GETTING THE RIGHT JOB 96 a

Supplementary Books and Pamphlets:

HOW TO GET THE RIGHT JOB AND KEEP IT 229 a

GETTING A JOB 222 a

SUCCEEDING IN THE WORLD OF WORK 231 a

YOU AND YOUR JOB 239 a

Filmstrips:

JOB HUNTING: WHERE TO BEGIN 241 g

YOUR JOB INTERVIEW 241 u

XVI. Working On The Job

Once you have a job, it is up to you to be successful. It is important that you know how to cope with the problems that arise. You must know what the employer expects. You must be able to get along with the other workers. New workers must be alert and flexible. You must be able to size up a situation and act accordingly.

This unit is designed to answer the following questions:

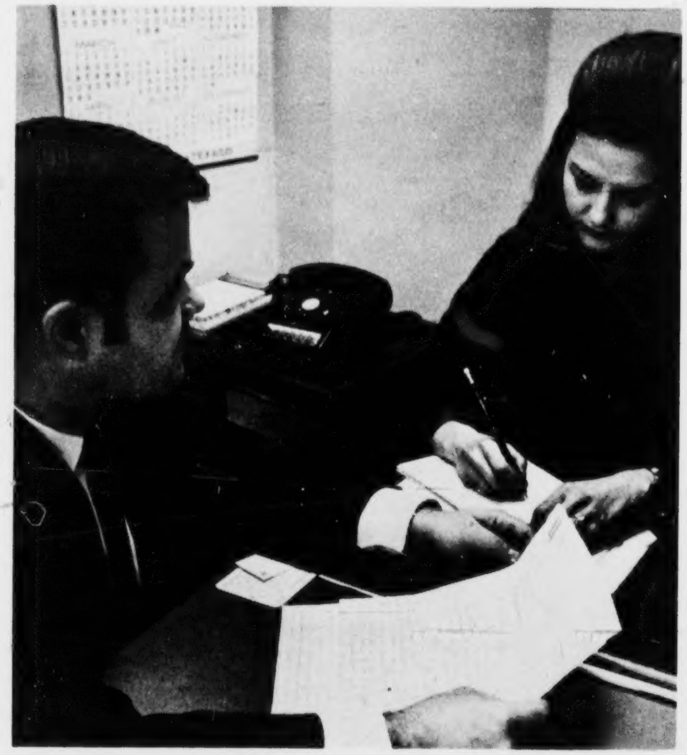
1. **What problems may confront employees?**
2. **What do employers expect of employees?**
3. **What consideration should be given to fellow employees?**
4. **What are the rights of employees?**

1. What problems may confront employees?

Businesses which hire new workers have usually been in existence for many years. Therefore, some of the employees have worked there a long time. A routine or procedure of operation has been established. The older workers know the routine and new workers must learn the routine.

The function of a business needs to be understood. A new worker should determine what the business is trying to accomplish. It is frequently necessary to set priorities in work. Some things cannot be delayed. For example, a secretary may have more letters than she can prepare in one day. She must be able to select those which are most urgent and prepare them for mailing. Those that are not urgent can be delayed until the next day.

Workers must be able to complete a task once it is begun. This is known as "follow through." A desire to "get a job done" is essential. In addition, workers must realize that they are part of a team. They should help their fellow workers so that work may be accomplished as scheduled.



A Secretary Taking Dictation. (Courtesy Texaco, Inc., Houston, Texas.)

New workers frequently find certain things they would like to change about their work. They may also have suggestions about how the operation of the business may be changed. ① It is a good idea to size up a situation before making suggestions. Older workers frequently resist change. Suggestions from a new worker may not be well received. In fact, a new worker may be rejected by the older workers if he attempts to change too many things. It should be remembered that an established business has been operating successfully for a long time before the new worker came on the scene.

All new workers need to be flexible. They need to be able to adjust in changing from one job to another. They need to be able to learn new routines and skills. A worker may become unhappy if he does not try to learn new skills. In fact, he may even lose his job.

New workers need to have a proper attitude toward work. They need to have "a willing to learn" attitude. They should display enthusiasm for their work. Older workers like to see enthusiastic new workers, but they do not like for new workers to try to take over.

② In summary, the major problem of new workers is to "fit in." They must be able to adjust to the new work environment. Good relationships with fellow workers are a must. These demand an open mind and flexibility in job performance.

2. *What do employers expect of employees?*

Employers expect productivity. Workers must make money for their employers. If ③ workers do not make money, the employer cannot pay them. Employers usually expect the following things of workers:

Traits That Workers Should Have

1. Good work attitude
2. Dependability
3. Cooperation
4. Initiative
5. Pride in work
6. Ability to get along with others
7. Honesty
8. Enthusiasm
9. Cheerfulness
10. Ability to listen to and carry out instructions
11. Loyalty
12. Efficiency—not wasting time and materials
13. Reliability
14. Good and prompt attendance
15. Helpfulness
16. Willingness to learn
17. Ability to follow rules and regulations

Perhaps another way to determine what employers expect is to study why people lose their jobs. Most workers have the necessary skill to do the work. The way in which they work and their attitudes toward their fellow workers need to be improved. Below is a list of reasons given by employers as to why workers lose their jobs.

④ *Reasons Why Workers Lose Their Jobs* *

1. Carelessness
2. Unwillingness to follow rules
3. Laziness
4. Absence or tardiness without cause
5. Troublemaking
6. Too much attention to outside interests

---

*Courtesy Mississippi Employment Security Commission, Jackson, Mississippi

7. Lack of initiative
8. Too little or too much ambition
9. Disloyalty
10. Irresponsibility
11. Lack of adaptability
12. Misrepresentation

3. What consideration should be given to fellow employees?

Most people do not work alone. They work with other people. They must be able to get along with their fellow workers. People do not automatically get along with each other. Patience and understanding for other workers is required.

⑤ Perhaps the key to getting along on the job is *cooperation.* **If workers do not cooperate, everyone involved will be hurt. The amount and quality of work is reduced when workers do not cooperate. Also, pay raises and promotions are not apt to occur.**

Employees who enjoy working together get more work done. They are also able to produce better goods. The world of work is complex. In fact, workers are so dependent on each other that one can hardly be successful without the assistance of another.

It is very important for beginning workers to cooperate with older workers. Much can be learned from workers who have been on a job for a while. Beginning workers need to watch and listen to older workers. They may need to ask questions about their work. The best workers can be determined after only a short time in a job. Beginning workers need to secure assistance from the good workers—not the poor ones.

Consideration of the suggestions of workers who have experience is important. Beginning workers should appreciate helpful suggestions. Actually, an older worker does a person a favor when he tells him about mistakes.

Occasionally disputes will arise at work. It is best to stay out of these except in certain unjust situations. Assisting the workers on one side of a dispute will likely make enemies out of those on the other side. Good workers try to remain neutral.

Differences of opinion are found among workers. These may relate to how the work is to be done. Frequently, it is necessary for one to make a decision for himself. In this case, a careful analysis of the differences is a must. Study the facts that are available and make a decision based on the findings.

A sense of humor is important. It is the ability to laugh at one's self, even when it may hurt inside that allows us to get along with others. It may be difficult for a person to do this. A good sense of humor helps to make a happy and well-adjusted worker.

Several tips on how to get along with fellow workers are listed below:

1. Do your share of the work and a little extra.
2. Recognize your mistakes and admit being wrong.
3. Do extra work or work other than that which you were hired to do, if it is necessary.
4. Develop a sense of humor.
5. Speak with care, choosing words which will not irritate or alienate others.
6. Respect the opinions and rights of other workers.
7. Keep an open mind and be willing to accept new ways of doing things.
8. Cooperate with other workers.
9. Develop an understanding of yourself.
10. Develop a positive attitude. Do not complain about things at work.
11. Compliment fellow workers on a job well done.
12. Avoid being jealous of the employer and of other workers.

4. *What are the rights of employees?*

Just as an employer expects a full day's work for a day's pay, a worker also expects certain things of the employer. All employers are not alike. However, there is similarity in many of the practices that are followed.

Generally, workers can expect the following things of their employers:

⑥ 1. Orientation to a job—Employers should instruct workers as to how a job is to be done. The amount of training and instruction given will vary. Some jobs require more training than others. A new worker should always ask questions about his work to be sure that he adequately understands it. A worker should never say he knows how to do something when, in reality, he doesn't.

2. Pay—Employees expect to be paid for the work they do. The amount an employer pays out before any deductions is known as "gross pay." The pay check a worker receives is less than the gross pay. This is because various deductions for tax and social security are made. The amount a worker receives after deductions is "net pay." Workers expect to be paid in full on every regular pay day.

A Worker Operating a Bean Harvester. (Courtesy MFC Services, Jackson, Mississippi.)

3. **Orientation to benefits—Employers should inform workers about fringe benefits.** Fringe benefits are a part of the pay. If workers do not use them they are not receiving the full benefits of work. It should be noted, however, that fringe benefits are to be *used* and not *abused*. Many employers have handbooks which list the fringe benefits in detail.

4. **Provision for safety at work—Employers should be aware of the hazards of certain work. They should take steps to make the work environment as safe as possible.**

5. **Information about changes—The policies of an employer may change.** Workers have a right to know these changes. In addition, workers should be informed about changes in their work, rate of pay, and other matters.

6. **Discipline for violation of rules—Most of the time workers must abide by certain rules.** These rules were established by the employer to increase overall efficiency. Workers should expect to be disciplined if they violate the rules or do not perform as an employer expects. A worker who has broken the rules should not resent the action of the employer.

7. **Obedience to all legal regulations—Workers expect their employers to abide by the law.** Employers must pay a share of the social security payments and contribute to workmen's compensation. In addition to these, various local regulations may be in effect.

Goal:

Students should learn what employers usually expect of their employees and what the worker has a right to expect of his employer.

After the students have read Chapter XVI, have them discuss the following questions:

Review Questions:

1. Why should new workers hesitate to suggest changes? p. 186
2. What is the major problem facing new workers? Explain. p. 186
3. What are some traits that employers expect of workers? p. 186
4. What are some reasons why workers lose their jobs? pp. 186-187
5. Why should workers cooperate with each other? p. 187
6. What should workers expect of employers? pp. 188-189
7. Why should a worker be loyal to his employer?

Workers should be loyal to their employer and work hard because the worker's success and advancement is dependent upon the success of the firm for which he works. Most organizations must make a profit in order to stay in business and pay their employees. The worker who has little loyalty to his employer and does the minimum to get by may have a difficult time holding his job or obtaining advancement.

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Obtain an employee's handbook from a nearby business, industry or government office. Review it. Note the various rules and fringe benefits that are listed.

2. View the following films:
   Your Job: Fitting In
   Your Job: Good Work Habits
   Your Job: You and Your Boss

   The above films are available from:
   Film Library, Curriculum Coordinating Unit
   P. O. Drawer DX
   State College, Mississippi 39762

3. Invite a personnel director or manager of a local business to class. Have him discuss some of the problems faced by new workers.
   Refer to Appendix D.

4. Conduct a panel discussion on the topic "How the traits for success in work are related to traits required for success in school." Mention the following:

   Attitude (positive versus negative)
   Hard work
   Honesty
   Cheerfulness
   Obedience to rules and regulations
   Dress
   Loyalty
   Cooperation
   Good attendance and promptness

5. Develop posters or bulletin boards which portray the characteristics of a good worker.

Additional Activities:

1. Have students discuss the following situation:

WHAT WOULD YOU DO?

Susan has been working at the Ladies Fashion Shoppe as a saleslady for three months. She loves her job and shows potential to become a department manager.

Yesterday, Susan's supervisor called her to the office for a talk. Susan has been late for work the past two Saturday mornings. The supervisor let Susan know that she felt Susan had the potential for promotion, but she must stop being late. "If you cannot be responsible and follow the store rules, you will not be able to require those working under your supervision to keep the rules."

Susan knows that she has been staying out too late with her boyfriend on Friday nights. Whenever she says that she must go in early, Bob pouts, "You must not love me as much as your job."

Susan wants to keep her job and her boyfriend. What would you do?

2. Students may enjoy learning about how working conditions have changed during the past century. Listed below are typical working practices required by a British Company in 1852.

WHAT ARE GOOD WORKING CONDITIONS?*

1. GODLINESS, Cleanliness and Punctuality are the necessities of a good business.

2. THIS FIRM has reduced the hours of work, and the Clerical Staff will now only have to be present between the hours of 7 A.M. and 6 P.M. on weekdays.

3. DAILY PRAYERS will be held each morning in the Main Office. The Clerical Staff will be present.

4. CLOTHING must be of a sober nature. The Clerical Staff will not disport themselves in raiment of bright colours, nor will they wear hose unless in good repair.

5. OVERSHOES and topcoats may not be worn in the office, but neck scarves and headwear may be worn in inclement weather.

6. A STOVE is provided for the benefit of the Clerical Staff. Coal and wood must be kept in the locker. It is recommended that each member of the Clerical Staff bring 4 pounds of coal each day during cold weather.

7. NO MEMBER of the Clerical Staff may leave the room without permission from Mr. Rogers. The calls of nature are permitted, and Clerical Staff may use the garden below the second gate. This area must be kept in good order.

8. NO TALKING is allowed during business hours.

9. THE CRAVING FOR TOBACCO, wines and spirits is a human weakness, and as such is forbidden to all members of the Clerical Staff.

10. NOW THAT THE HOURS of business have been drastically reduced, the partaking of food is allowed between 11:30 A.M. and noon, but work will not, on any account, cease.

11. MEMBERS OF THE CLERICAL STAFF will provide their own pens. A new sharpener is available, on application to Mr. Rogers.

12. MR. ROGERS will nominate a Senior Clerk to be responsible for the cleanliness of the Main Office and the Private Office, and all Boys and Juniors will report to him 40 minutes before Prayers and will remain after closing for similar work. Brushes, Brooms, Scrubbers and Soap are provided by the owners.

13. THE NEW INCREASED WEEKLY WAGES are as hereunder detailed:

Junior Boys (to 11 years) 1s. 4d.
Boys (to 14 years) 2s. 1d.
Juniors 4s. 8d.
Junior Clerks 8s. 7d.
Clerks 10s. 9d.
Senior Clerks (after 15 years with the Owners) 21s.

14. THE OWNERS RECOGNIZE the generosity of the new Labour Laws, but will expect a great rise in output of work to compensate for these near-Utopian conditions.

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*James C. Coleman, **Psychology and Effective Behavior.** (Glenview, Illinois: Scott, Foresman and Company) 1969, p. 342.

Suggested Review Survey:

Match the answers on the right (letters) with the corresponding items (numbers) on the left. Some of the answers may be used more than once.

_____ 1. Provision for safety at work

_____ 2. Respect the opinions and rights of others.

_____ 3. Irresponsibility

_____ 4. Good work attitudes

_____ 5. Develop a sense of humor

_____ 6. Dependability

_____ 7. Troublemaking

_____ 8. Pride in work

_____ 9. Orientation to a job

_____ 10. Carelessness

A. Traits that workers should have

B. Reasons why workers lose their jobs

C. Tips on how to get along with fellow workers

D. Things that workers should expect of employers

Answers to suggested review survey: 1, D; 2, C; 3, B; 4, A; 5, C; 6, A; 7, B; 8, A; 9, D; 10, B.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Supplementary Books and Pamphlets:

GETTING A JOB 222 a

HOW TO GET THE RIGHT JOB AND KEEP IT 229 a

SUCCEEDING IN THE WORLD OF WORK 231 a

Filmstrips:

GETTING AND KEEPING YOUR FIRST JOB 241 d

A JOB THAT GOES SOMEPLACE 241 h

TROUBLE AT WORK 241 q

XVII. Advancing In A Career

Most people are not content to remain in the same job all of their lives. They want to advance to jobs with greater responsibility and more pay. You probably have the same desire. You must remember, however, that most workers begin in jobs with lesser responsibility and advance to those with greater responsibility. Advancement is not automatic. Workers must earn promotions.

The following questions about advancing in the world of work are answered:

1. **What is advancement? How do people advance in careers?**
2. **What responsibilities and rewards accompany advancement?**
3. **Why do people change jobs?**
4. **What preparation may be needed to change jobs?**
5. **What problems accompany changing jobs?**

1. What is advancement? How do people advance in careers?

① Success in work and advancement go hand in hand. Advancement means that a worker receives a promotion to another job. Promotions are of three kinds: (1) a better job in the same plant or department, (2) a job with increased responsibility in the same company but in a different plant or department, and (3) a more responsible job with another company. It is to be noted that (1) and (2) are with the same employer, and number (3) is with a different employer.

Promotions with the same employer (numbers (1) and (2) above) are based on a number of factors. Mostly, they reward workers for their productive work. Only the most productive workers usually receive promotions.

Workers occasionally quit working for one company and go to work for another (number 3). A promotion is involved only if the work is at a higher level or requires more responsibility. Sometimes it appears that good workers get passed over at promotion time. After this has occurred several times those workers might want to look for another job. It is possible that another job would be a promotion. However, employers thoroughly investigate the experience and productivity of a new worker before placing him in an advanced job.

Regardless of how a promotion is received, employers usually carefully evaluate a worker. Several factors often considered in granting promotions are listed below.

② *Productivity.* This includes both the quality and quantity of work done. Workers who do well in their present work would also probably do well in an advanced job. How well a worker performs his job often determines how fast the work gets accomplished. Both speed and accuracy of work are considered in granting promotions.

Education. The knowledge a person has about a job is an important consideration in granting a promotion. Usually, a person who knows his present job well will learn a more advanced job. Also considered are the educational background and training of a person. All other things being equal, the person with the most education will receive the first promotion.

Seniority. This refers to how long a person has been working for an employer. The greatest seniority is held by those who have worked for the company the longest. Beginning workers have low seniority. Many employers take seniority into consideration but it is not the sole reason for granting promotions.

Work Habits. Persons with good work habits are more likely to receive promotions. Good work habits refer to how one goes about doing work. It includes initiative, cooperativeness, flexibility, and the ability to stay with a job until it is completed. Persons in supervisory jobs must display good work habits to those working under them. Especially important is the ability to get along with other workers and to think before speaking and acting.

2. What responsibilities and rewards accompany advancement?

Promotions usually bring additional responsibility. Most of the time promotions involve supervising other workers. A supervisor must see that the other workers perform their jobs well. How well the others do their jobs is a reflection upon the supervisor.

③ Relationships among workers change when one is promoted to a supervisory job. No longer are all of them co-workers. The supervisor is the boss. Not all persons, however, like the additional responsibility of a supervisory job. A supervisor must be able to be a boss without being "bossy." This demands an understanding of people and how to direct their activities.

Promotions result in advancement to more prestigious jobs. With the prestige goes responsibility. Promotion to high level jobs means that policy making will be involved. The general direction in which a business or industry moves is a reflection on the policies of the business.

A Supervisor Assisting a Worker. (Courtesy Texaco, Inc., Houston, Texas.)

Rewards from advancement may be either tangible or intangible. Tangible rewards refer to increases in pay and fringe benefits. Intangible rewards refer to the personal satisfaction that one obtains from a job well done. Many times people derive greater satisfaction from the intangible rewards than from the tangible rewards.

3. *Why do people change jobs?*

It is common for people to change jobs. It is less common for people to change careers. Most people tend to stay in the same kind of work. In effect their jobs change but their careers tend to remain the same. Occasionally, however, people do change careers.

④ People change jobs for a number of reasons. Before changing jobs a person should analyze both the job he presently holds and the new job he is considering taking. Below is a list of reasons why many people change jobs. These things should be considered before changing jobs:

1. Increased pay.
2. Promotion to a higher level job.
3. Improved fringe benefits.
4. Unsatisfactory working conditions.
5. Termination of job or being fired.
6. Failure of health and physical ability.
7. Wishes and well-being of family.
8. Additional education and experience.
9. Declining job market in a certain area.
10. Dissatisfaction with current job.

4. *What preparation may be needed to change jobs?*

Changing jobs is serious business. It involves finding a new job and quitting the old job. A person should never quit a job until a new one has been secured. Various professional occupations have codes of ethics which should be followed in changing jobs.

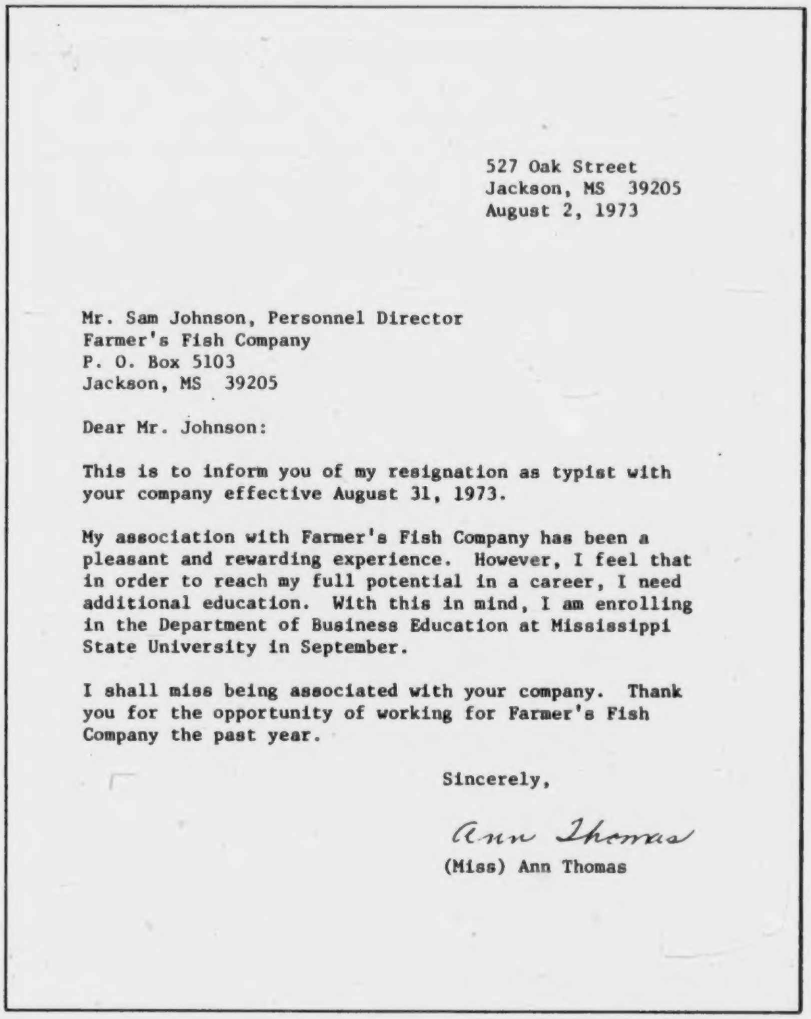
⑤ Changes in jobs should not be made hurriedly. In considering whether to change jobs, one should attempt to answer the following questions:

1. What does the future hold for the old and new jobs?
2. Will the new job be a promotion?
3. What will I lose in fringe benefits and seniority privileges? Gain?
4. Will I have greater security with the old or the new job?
5. Will I be happier in the new job?
6. How does the pay for the two jobs compare?
7. What does my family think of the change?
8. Do I have the education and training required for success in the new job?

After a new job has been found and accepted, one must quit the old job. In quitting a job, a worker should (1) orally tell his boss, *and* (2) write a letter of resignation.

A worker should tell his immediate supervisor face-to-face that he is planning to leave the job. The oral announcement should be given well in advance of the date one plans to quit—at least two to four weeks ahead of time. All discussion about quitting a job should be in friendly terms. It is a good idea to express appreciation to the employer for the opportunity of working for him and for other favors received.

A sample letter of resignation is shown below.



527 Oak Street
Jackson, MS 39205
August 2, 1973

Mr. Sam Johnson, Personnel Director
Farmer's Fish Company
P. O. Box 5103
Jackson, MS 39205

Dear Mr. Johnson:

This is to inform you of my resignation as typist with your company effective August 31, 1973.

My association with Farmer's Fish Company has been a pleasant and rewarding experience. However, I feel that in order to reach my full potential in a career, I need additional education. With this in mind, I am enrolling in the Department of Business Education at Mississippi State University in September.

I shall miss being associated with your company. Thank you for the opportunity of working for Farmer's Fish Company the past year.

Sincerely,

Ann Thomas

(Miss) Ann Thomas

⑥ A letter of resignation should be submitted to the employer soon after the immediate supervisor has been told of the intent to leave. **This letter should contain the following information:**

1. **You are leaving.**
2. **Why you are leaving.**
3. **The date you plan to leave.**
4. **Appreciation for the opportunity to have worked for the employer.**

5. *What problems accompany changing jobs?*

Many of the same problems that accompany adjusting to a first job are also problems in changing jobs. One of the main problems is that of "fitting in." A worker must learn what the employer expects and the routine of the new job. For older workers, this may be difficult. Older workers are often less able to adjust to changes in routine. For this reason, older workers do not change jobs very often.

Workers who are established in a community and have families have additional problems when changing jobs. This is especially true if it is necessary to move the place of residence. If a home is owned, it must be sold. The expense of moving may be considerable. Some employers, however, will pay the moving expenses for employees. Children may have to change the schools they attend and leave their friends.

A problem many workers face when changing jobs is that they have no income during the time between jobs. The expenses of living continue whether one has an income or not. It may be possible to use accumulated leave (paid vacation) in getting settled in a new location so there will not be any time without income.

Another problem that workers may face when changing jobs is that they lose many fringe benefits. The amount paid into retirement programs may be lost. Seniority may be lost when changing employers. Accumulated vacation and sick leave time may be forfeited.

Changing jobs is an important step. All of the problems that may arise should be studied before a decision is made. An important consideration is whether or not one remains with the same employer. Fringe benefits and seniority are usually not lost if a job change is within the same company. This is to be contrasted with changing to new employers in which all seniority and fringe benefits may be lost.

Goal:

Students should learn how workers usually advance in a job and some of the advantages and disadvantages of changing jobs.

After the students have read Chapter XVII, have them discuss the following questions:

Review Questions:

1. What are the three kinds of promotions? Explain each. p. 191
2. What do employers consider in granting promotions? pp. 191-192
3. How does the relationship among workers change when one of the workers is promoted? p. 192
4. What are some reasons people change jobs? p. 193
5. What should be considered in determining whether to change jobs? p. 193
6. What four items of information should a letter of resignation contain? p. 195

Encourage students to complete the following activities which may interest them:

Suggested Activities:

1. Invite a personnel director or manager of a local business to visit class. Have him explain how and why workers are promoted.
   Refer to Appendix D.
2. Invite a person who has recently changed jobs to visit class and discuss some of the problems he had in changing jobs.
   Refer to Appendix D.
3. Write a sample letter of resignation from a fictitious job that you might hold.

Additional Activities:

Have the students discuss the following situation:

WHAT WOULD YOU DO?

Ralph plays football on the high school team. He has many good friends on the team and also in his classes.

After football season, Ralph got a Saturday job at the local ice cream stand. Within a few weeks, Ralph was doing such a good job that the owner decided to take Saturdays off and pay Ralph extra to manage the stand.

Shortly after Ralph began to manage the stand on Saturday, he found that he had a problem. Three of his teammates came in and asked for an extra dip on their ice cream cone at regular price. Since they were good friends, Ralph was glad to give them an extra dip. The problem was that soon the news spread to the whole team and many of the other students at school. Gradually, more and more people were asking for extra nuts, cherries, whipped cream, or ice cream.

Ralph enjoyed having his friends come by the stand, and he especially enjoyed the extra attention from the girls. Ralph did not think that he would get caught, but he still felt guilty. He didn't know what to do.

Suggested Review Survey:

Match the answers on the right (letters) with the corresponding items (numbers) on the left. Some of the answers may be used more than once.

_____ 1. Date you plan to leave

_____ 2. Declining job market

_____ 3. Productivity

_____ 4. Loss of fringe benefits

_____ 5. Being fired

_____ 6. Education

_____ 7. Increased pay

_____ 8. Expense of moving

_____ 9. Why you are leaving

_____ 10. Seniority

A. Factors often considered in granting promotions

B. Reasons many people change jobs

C. Letter of resignation should state

D. Problems in changing jobs

Answers to suggested review survey: 1, C; 2, B; 3, A; 4, D; 5, B; 6, A; 7, B; 8, D; 9, C; 10, A.

Resources:

Each resource is coded with a number and a letter which corresponds to ordering information in Appendix Q. The number refers to the name and address of the organization from which the publication may be ordered. The letter refers to the title of the publication.

Supplementary Books and Pamphlets:

HOW TO GET THE RIGHT JOB AND KEEP IT 229 a

SUCCEEDING IN THE WORLD OF WORK 231 a

SELECTED SOURCES OF ADDITIONAL INFORMATION AND BIBLIOGRAPHY

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Richter, David J. *Occupational Essentials.* Rockford, Illinois: H. C. Johnson Press, Inc., 1970.

Roe, Anne. *The Psychology of Occupations.* New York: John Wiley and Sons, Inc., 1956.

Russon, Allien R. *Business Behavior.* Cincinnati: South-Western Publishing Company, 1964.

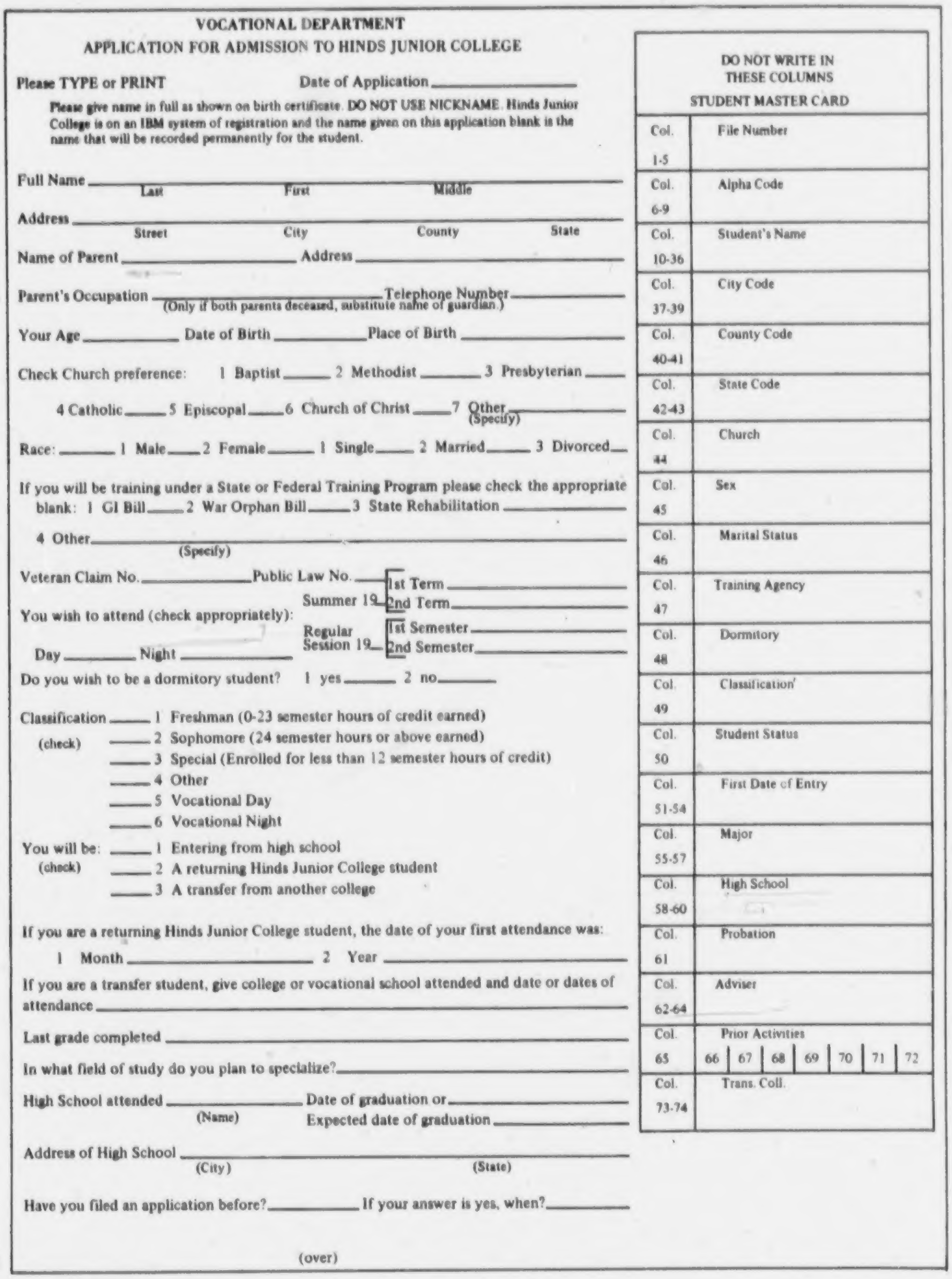
Self-Understanding Through Occupational Exploration. Salem: Oregon Board of Education, 1969.

Wilson,W. Harmon, and Eyster, Elvin S. *Consumer Economic Problems.* Cincinnati: South-Western Publishing Company, 1966.

APPENDIX A

Sample Application for Admission to a Vocational School

(Courtesy Robert M. Mayo, President, Hinds Junior College, Raymond, Mississippi.)



VOCATIONAL DEPARTMENT

APPLICATION FOR ADMISSION TO HINDS JUNIOR COLLEGE

Please TYPE or PRINT Date of Application ________

Please give name in full as shown on birth certificate. DO NOT USE NICKNAME. Hinds Junior College is on an IBM system of registration and the name given on this application blank is the name that will be recorded permanently for the student.

Full Name ________ Last First Middle

Address ________ Street City County State

Name of Parent ________ Address ________

Parent's Occupation ________ Telephone Number ________
(Only if both parents deceased, substitute name of guardian.)

Your Age ________ Date of Birth ________ Place of Birth ________

Check Church preference: 1 Baptist ____ 2 Methodist ____ 3 Presbyterian ____

4 Catholic ____ 5 Episcopal ____ 6 Church of Christ ____ 7 Other (Specify) ________

Race: ____ 1 Male ____ 2 Female ____ 1 Single ____ 2 Married ____ 3 Divorced ____

If you will be training under a State or Federal Training Program please check the appropriate blank: 1 GI Bill ____ 2 War Orphan Bill ____ 3 State Rehabilitation ________

4 Other ________ (Specify)

Veteran Claim No. ________ Public Law No. ____

You wish to attend (check appropriately):

Summer 19__ 1st Term ________
2nd Term ________

Regular Session 19__ 1st Semester ________
2nd Semester ________

Day ________ Night ________

Do you wish to be a dormitory student? 1 yes ____ 2 no ____

Classification (check)
- ____ 1 Freshman (0-23 semester hours of credit earned)
- ____ 2 Sophomore (24 semester hours or above earned)
- ____ 3 Special (Enrolled for less than 12 semester hours of credit)
- ____ 4 Other
- ____ 5 Vocational Day
- ____ 6 Vocational Night

You will be: (check)
- ____ 1 Entering from high school
- ____ 2 A returning Hinds Junior College student
- ____ 3 A transfer from another college

If you are a returning Hinds Junior College student, the date of your first attendance was:

1 Month ________ 2 Year ________

If you are a transfer student, give college or vocational school attended and date or dates of attendance ________

Last grade completed ________

In what field of study do you plan to specialize? ________

High School attended ________ (Name) Date of graduation or ________ Expected date of graduation ________

Address of High School ________ (City) (State)

Have you filed an application before? ________ If your answer is yes, when? ________

(over)

DO NOT WRITE IN THESE COLUMNS STUDENT MASTER CARD							
Col. 1-5	File Number						
Col. 6-9	Alpha Code						
Col. 10-36	Student's Name						
Col. 37-39	City Code						
Col. 40-41	County Code						
Col. 42-43	State Code						
Col. 44	Church						
Col. 45	Sex						
Col. 46	Marital Status						
Col. 47	Training Agency						
Col. 48	Dormitory						
Col. 49	Classification						
Col. 50	Student Status						
Col. 51-54	First Date of Entry						
Col. 55-57	Major						
Col. 58-60	High School						
Col. 61	Probation						
Col. 62-64	Adviser						
Col. 65	Prior Activities 66	67	68	69	70	71	72
Col. 73-74	Trans. Coll.						

Close relatives who are former students of Hinds Junior College:

Name	Relation	Present Address and Occupation

How did you become interested in attending Hinds Junior College?

For reference purposes, please give below the names and addresses of two people:

Do you work full time? YES________ NO________ Occupation________________________

Your Employer's Name____

Business Address____

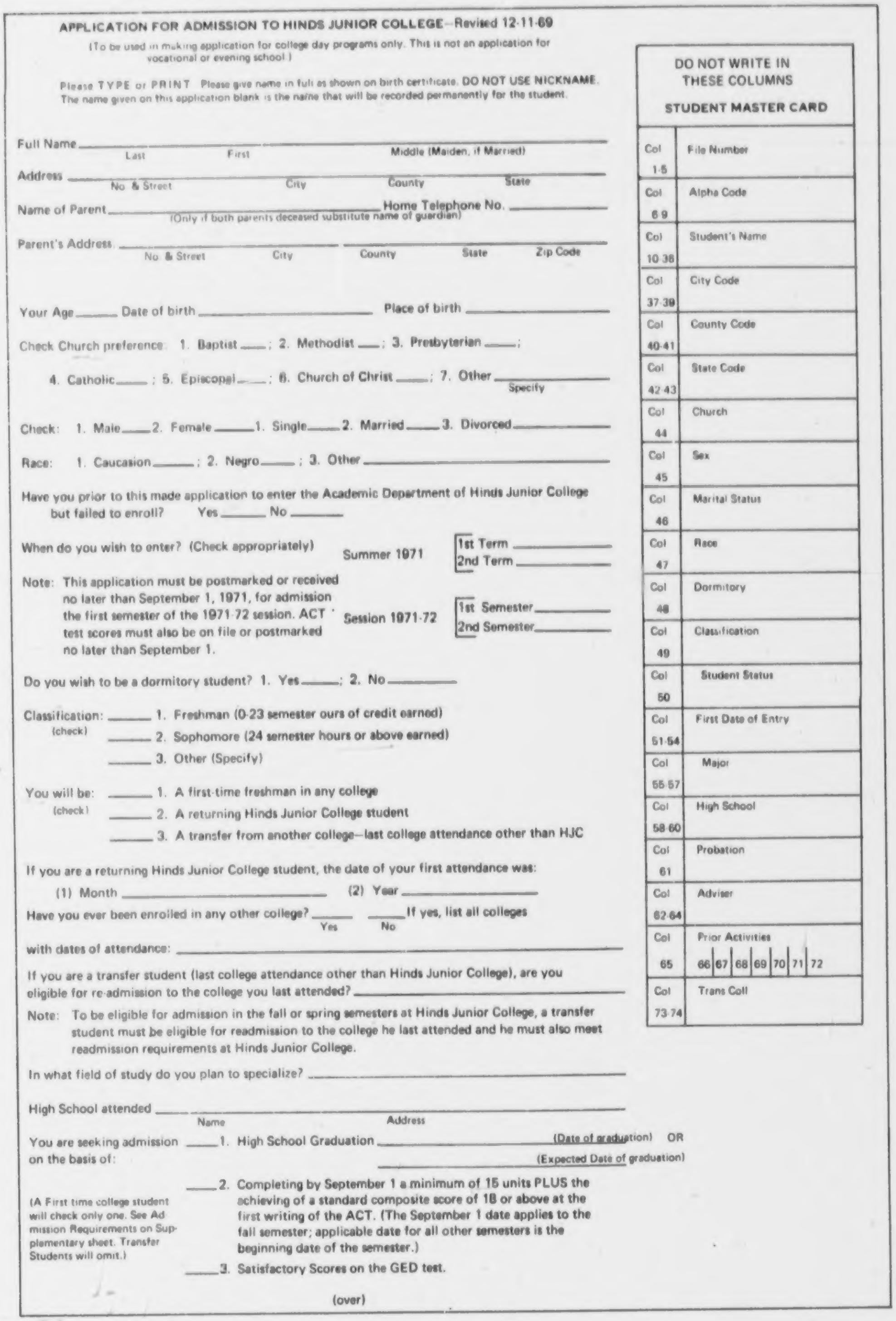
Please return this application, together with the Health Examination Record and the Dormitory Application Form to the:

Vocational-Technical Division
Hinds Junior College
Raymond, Mississippi

APPENDIX B

Sample Application for Admission to a College

(Courtesy Robert M. Mayo, President, Hinds Junior College, Raymond, Mississippi.)



APPLICATION FOR ADMISSION TO HINDS JUNIOR COLLEGE—Revised 12-11-69

(To be used in making application for college day programs only. This is not an application for vocational or evening school.)

Please TYPE or PRINT. Please give name in full as shown on birth certificate. DO NOT USE NICKNAME. The name given on this application blank is the name that will be recorded permanently for the student.

Full Name ____________________ Last First Middle (Maiden, if Married)

Address ____________________ No. & Street City County State

Name of Parent ____________________ (Only if both parents deceased substitute name of guardian) Home Telephone No. ____________

Parent's Address ____________________ No. & Street City County State Zip Code

Your Age ____ Date of birth ____________ Place of birth ____________

Check Church preference: 1. Baptist ___; 2. Methodist ___; 3. Presbyterian ___;

4. Catholic ___; 5. Episcopal ___; 6. Church of Christ ___; 7. Other ____________ Specify

Check: 1. Male ____ 2. Female ____ 1. Single ____ 2. Married ____ 3. Divorced ____________

Race: 1. Caucasion ____; 2. Negro ____; 3. Other ____________

Have you prior to this made application to enter the Academic Department of Hinds Junior College but failed to enroll? Yes ____ No ____

When do you wish to enter? (Check appropriately) Summer 1971 1st Term ____________ 2nd Term ____________

Note: This application must be postmarked or received no later than September 1, 1971, for admission the first semester of the 1971-72 session. ACT test scores must also be on file or postmarked no later than September 1.

Session 1971-72 1st Semester ____________ 2nd Semester ____________

Do you wish to be a dormitory student? 1. Yes ____; 2. No ________

Classification: (check)
____ 1. Freshman (0-23 semester ours of credit earned)
____ 2. Sophomore (24 semester hours or above earned)
____ 3. Other (Specify)

You will be: (check)
____ 1. A first-time freshman in any college
____ 2. A returning Hinds Junior College student
____ 3. A transfer from another college—last college attendance other than HJC

If you are a returning Hinds Junior College student, the date of your first attendance was:
(1) Month ____________ (2) Year ____________

Have you ever been enrolled in any other college? ____ Yes ____ No If yes, list all colleges with dates of attendance: ____________

If you are a transfer student (last college attendance other than Hinds Junior College), are you eligible for re-admission to the college you last attended? ____________

Note: To be eligible for admission in the fall or spring semesters at Hinds Junior College, a transfer student must be eligible for readmission to the college he last attended and he must also meet readmission requirements at Hinds Junior College.

In what field of study do you plan to specialize? ____________

High School attended ____________ Name Address

You are seeking admission on the basis of:
____ 1. High School Graduation ____________ (Date of graduation) OR ____________ (Expected Date of graduation)
____ 2. Completing by September 1 a minimum of 15 units PLUS the achieving of a standard composite score of 18 or above at the first writing of the ACT. (The September 1 date applies to the fall semester; applicable date for all other semesters is the beginning date of the semester.)
____ 3. Satisfactory Scores on the GED test.

(A First time college student will check only one. See Admission Requirements on Supplementary sheet. Transfer Students will omit.)

(over)

DO NOT WRITE IN THESE COLUMNS

STUDENT MASTER CARD

Col 1-5	File Number
Col 6-9	Alpha Code
Col 10-36	Student's Name
Col 37-39	City Code
Col 40-41	County Code
Col 42-43	State Code
Col 44	Church
Col 45	Sex
Col 46	Marital Status
Col 47	Race
Col 48	Dormitory
Col 49	Classification
Col 50	Student Status
Col 51-54	First Date of Entry
Col 55-57	Major
Col 58-60	High School
Col 61	Probation
Col 62-64	Adviser
Col 65	Prior Activities 66 | 67 | 68 | 69 | 70 | 71 | 72
Col 73-74	Trans Coll

Have you taken the American College Test? Yes______ No ______ If NO, you must take the test in time to have your scores registered in our office by September 1 for enrollment the fall semester.

If you have taken the ACT test, did you request the scores to be sent to Hinds Junior College? Yes____ No ____ If NO, it is your responsibility to see that we receive the scores by September 1 for enrollment the fall semester.

Check the activities in which you have previously participated: 65. Band____ ; 66. Chorus ____ ; 67. Tennis ______ ;

68. Golf____ ; 69. Debate_____ ; 70. Drama____ ; 71. Publications______ ; 72. Other ____________________ (specify)

Close relatives who are former students of Hinds Junior College:

Name	Relation	Present Address and Occupation

How did you become interested in attending Hinds Junior College?

For reference purposes, please give below the names and addresses of two people:

1. ____
2. ____

Signature of Applicant ____________________________

Social Security Number of Applicant ________________________

Date of this Application ____________________________

Please return this application, TOGETHER WITH THE HEALTH EXAMINATION RECORD AND THE DORMITORY APPLICATION FORM to the

Registrar
Hinds Junior College
Raymond, Mississippi 39154

ONLY FOR THOSE WHO PLAN TO ATTEND THE 1971 SUMMER SCHOOL:

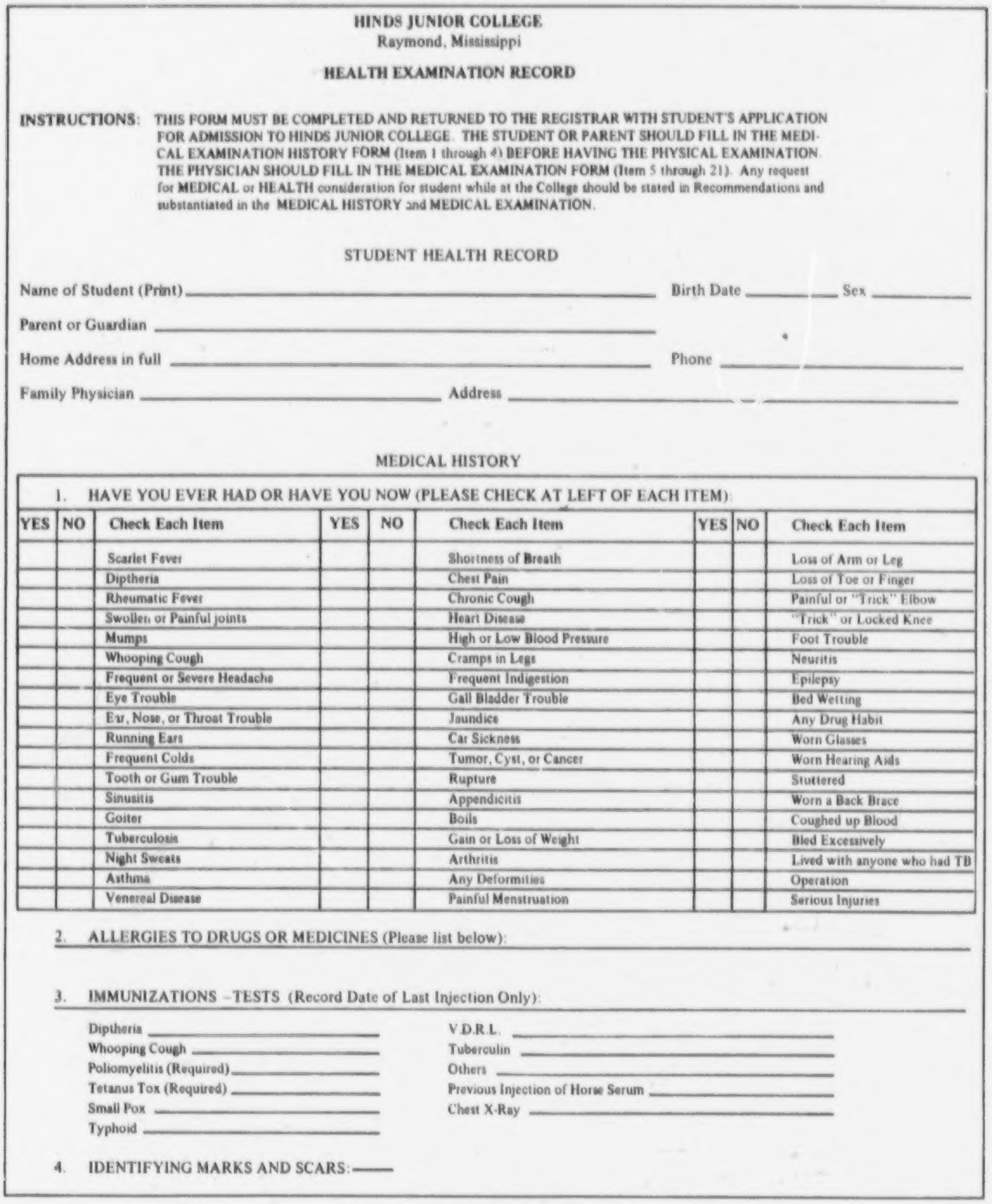
Subjects Desired in the Summer School:

First Term	Second Term
Course and Number	Course and Number
Course and Number	Course and Number

APPENDIX C

Sample Health Examination Record

(Courtesy Robert M. Mayo, President, Hinds Junior College, Raymond, Mississippi.)



HINDS JUNIOR COLLEGE
Raymond, Mississippi

HEALTH EXAMINATION RECORD

INSTRUCTIONS: THIS FORM MUST BE COMPLETED AND RETURNED TO THE REGISTRAR WITH STUDENT'S APPLICATION FOR ADMISSION TO HINDS JUNIOR COLLEGE. THE STUDENT OR PARENT SHOULD FILL IN THE MEDICAL EXAMINATION HISTORY FORM (Item 1 through 4) BEFORE HAVING THE PHYSICAL EXAMINATION. THE PHYSICIAN SHOULD FILL IN THE MEDICAL EXAMINATION FORM (Item 5 through 21). Any request for MEDICAL or HEALTH consideration for student while at the College should be stated in Recommendations and substantiated in the MEDICAL HISTORY and MEDICAL EXAMINATION.

STUDENT HEALTH RECORD

Name of Student (Print) ________________ Birth Date ________ Sex ________

Parent or Guardian ________________

Home Address in full ________________ Phone ________________

Family Physician ________________ Address ________________

MEDICAL HISTORY

1. HAVE YOU EVER HAD OR HAVE YOU NOW (PLEASE CHECK AT LEFT OF EACH ITEM):

YES	NO	Check Each Item	YES	NO	Check Each Item	YES	NO	Check Each Item
		Scarlet Fever			Shortness of Breath			Loss of Arm or Leg
		Diptheria			Chest Pain			Loss of Toe or Finger
		Rheumatic Fever			Chronic Cough			Painful or "Trick" Elbow
		Swollen or Painful joints			Heart Disease			"Trick" or Locked Knee
		Mumps			High or Low Blood Pressure			Foot Trouble
		Whooping Cough			Cramps in Legs			Neuritis
		Frequent or Severe Headache			Frequent Indigestion			Epilepsy
		Eye Trouble			Gall Bladder Trouble			Bed Wetting
		Ear, Nose, or Throat Trouble			Jaundice			Any Drug Habit
		Running Ears			Car Sickness			Worn Glasses
		Frequent Colds			Tumor, Cyst, or Cancer			Worn Hearing Aids
		Tooth or Gum Trouble			Rupture			Stuttered
		Sinusitis			Appendicitis			Worn a Back Brace
		Goiter			Boils			Coughed up Blood
		Tuberculosis			Gain or Loss of Weight			Bled Excessively
		Night Sweats			Arthritis			Lived with anyone who had TB
		Asthma			Any Deformities			Operation
		Venereal Disease			Painful Menstruation			Serious Injuries

2. ALLERGIES TO DRUGS OR MEDICINES (Please list below):

3. IMMUNIZATIONS – TESTS (Record Date of Last Injection Only):

Diptheria ________________
Whooping Cough ________________
Poliomyelitis (Required) ________________
Tetanus Tox (Required) ________________
Small Pox ________________
Typhoid ________________

V.D.R.L. ________________
Tuberculin ________________
Others ________________
Previous Injection of Horse Serum ________________
Chest X-Ray ________________

4. IDENTIFYING MARKS AND SCARS: ——

MEDICAL EXAMINATION

By Licensed Physician

5. Height	6. Weight	7. Blood Pressure	8. T.P.R.	9. Urinalysis	10. Chest X-Ray

GENERAL EVALUATION	REMARKS AND RECOMMENDATIONS
11. Eyes Vision	
12. Ears, Nose, Throat and Mouth	
13. Respiratory Tract	
14. Heart and Circulation	
15. Gastro-Intestinal Tract	
16. Genito-Urinary Tract	
17. Endocrine System	
18. Neuro-Muscular Systems	
19. Skin	
20. Psychological	
21. Other Indications	
Date of Examination	Signed , M.D.

APPENDIX D

Resource Persons

Resource persons from the local community may be invited to talk about their jobs to students. The interests of students should be determined, and workers in occupations in which most students are interested should be invited first. An effort should be made to invite workers from all walks of life. Speakers in the professions are sometimes favored, although they make up a small percentage of the total work force.

Many potential speakers decline invitations to appear before classes because they dislike preparing and making speeches. They may be more likely to respond if the teacher discourages them from making speeches but simply asks them to be prepared to answer the questions of students.

Prior to the speaker's visit students should:

*Learn as much as possible about the speaker's occupation.

*Try to gather information about the organization for which the speaker works.

*Be prepared to ask the speaker pertinent questions. The Occupational Study Outline at the end of Chapters VII through XIV provides a good guide for the type questions that students should be prepared to ask.

Tape recordings may be made of visits by resource persons and filed for later use. These tapes may be played for other occupational orientation classes later in the day, if the speaker can stay for only one class meeting.

During the next class meeting, students may discuss the points covered by the speaker and consider their own suitability for the occupation represented by the speaker.

Many times local organizations such as Rotary, Kiwanis, and Chamber of Commerce may be willing to establish a speaker's committee responsible for furnishing resource persons for occuaptional orientation classes. Although most persons who belong to these organizations hold professional jobs, some of them may be willing to release their employees for classroom visits.

Listed below are some of the sources from which resource speakers may be found in many communities:

Persons in the School

Principal
Teachers
Counselor
School nurse
Librarian
Secretaries
Custodian
Cafeteria workers
Bus drivers
School employees and students who
have held part time jobs

Relatives, Friends, and Associates

- Parents and relatives
- Associates
- Friends
- Neighbors

Business, Industry, and Agriculture

- Farms, ranches, and dairies
- Farm equipment agencies
- Retail stores
- Manufacturing plants
- Repair shops
- Accounting agencies
- Banks and loan companies
- Construction companies
- Restaurants
- Rental agencies
- Automobile agencies
- Barber and beauty shops
- Bottling companies
- Laundry and cleaners
- Insurance companies

Public Utilities and Services

- Telephone company
- Electric company
- Gas company
- Water, sewage, and garbage service
- Fire department
- Public transportation
- Police department
- Post office
- Public library
- Government officials
- Health department

APPENDIX E

Field Trips

Plant Tours

Plant tours give the students an opportunity to see, hear, feel, and smell the environment in which they work. Naturally, the teacher must make arrangements with the principal for transportation and released time for students. In some school systems insurance and parental approval are required for students making tours. Tours, even in small communities, may be considered to places of employment such as retail stores, restaurants and hotels, telephone company, railroad and bus companies, garages and service stations, electric and gas companies, cleaning firms, and building contractors.

In selecting tours, it may be wise to visit places where large numbers of former students are employed. Students should be encouraged to concentrate on the functions that workers actually perform rather than the process. Interesting discussions in class meetings after the tour may be initiated to determine what the students liked or disliked about the various jobs.

Some teachers may feel that they are placing a hardship upon those in industry and business by requesting permission to tour their facilities. However, most employers are themselves parents and are usually happy to have students visit their places of business.

Exhibits

Teachers may plan field trips to organized exhibits which are often held at fairs, home shows, business shows, and trade or commercial expositions.

Educational Institutions

Arrangements might be made for students to tour nearby colleges and vocational schools. Junior high students may benefit from touring the local Vocational-Technical Center which offers courses for students in the eleventh and twelfth grades.

After the field trip, students may use the following form to indicate their impressions and observations. The teacher may want to familiarize students with the form before the field trip to make them aware of some things which they might observe.

FIELD TRIP REPORT

Name: ________________________ Date of Field Trip: ______

Placed visited: ________________________

List some of the occupations which you observed:

____________________ ____________________

____________________ ____________________

List specific activities in which persons in each of these occupations were engaged:

____________________ ____________________

____________________ ____________________

List skills which are required for workers in these occupations:

____________________ ____________________

____________________ ____________________

List health or safety hazards that you observed:

____________________ ____________________

____________________ ____________________

Which of the jobs or activities observed did you find most interesting?

____________________ ____________________

____________________ ____________________

Which of the jobs or activities observed did you find least interesting?

____________________ ____________________

____________________ ____________________

Did the workers seem to enjoy their jobs?

____

How would you go about applying for a job there?

____

APPENDIX F

Interviews

The following form may be used by students in interviewing workers in different occupations.

INTERVIEW REPORT

Student's name: Date:
Name of person interviewed:

Questions to be asked by person conducting the interview:

1. What is your title?
2. Exactly what do you do on your job?
3. Where are you employed?
4. What type of education or special training does a person need to enter your occupation?
5. How much on-the-job training did you receive?
6. Are any special physical characteristics necessary for performing your job?
7. What personality traits are helpful in your field?
8. What abilities are required?
9. How would you describe the working conditions on your job?
10. What hours do you work?
11. Could you tell me the approximate salary of workers in your occupation?
12. What are some of the fringe benefits offered by your company?
13. What are the prospects of getting a job and advancing in your occupation?
14. What do you consider the major advantages of your type of work?
15. What are the major disadvantages?

APPENDIX G

Alumni Follow-Up

Students may conduct an alumni follow-up in which recent graduates in various occupations are contacted. A letter and questionnaire may be drafted asking the former student pertinent questions concerning what he does in his job, how he got his job, his earnings, likes and dislikes, and any advice he wishes to give those seeking employment. The graduate's reply should be addressed to a specific student who may report on the reply to the rest of the class. The students may tabulate the results of the follow-up, and special emphasis may be given to discussion of the most frequently reported occupations of alumni. The follow-up may give students some idea of the types of jobs which may be available. Follow-up studies may also be made through personal interviews.

Student conducting an Alumni Follow-up.

Although students should be encouraged to construct their own follow-up questionnaire, listed below are some items which they might include:

FOLLOW-UP QUESTIONNAIRE

1. Name:
2. Address:
3. Graduation date:
4. Employer:
5. Job Title:
6. Primary duties:

7. Weekly starting salary:
_____ to $50 _____ $50-$60 _____ $60 - $70
_____ $70 - $80 _____ $80-$90 _____ $90 - $100
_____ $100 - $120 _____ $120-$140 _____ over $140

8. How did you get your job?
_____ Public employment office
_____ Private employment office
_____ Friends and relatives
_____ Want ads
_____ School authorities
_____ Personal application

9. What type of training did you receive before going to work?
_____ Less than high school
_____ High school
_____ Technical school
_____ Junior college (2 years)
_____ Senior college (4 years)

10. Did your employer provide a training period?
_____ Yes How long? _____
_____ No

11. To what extent did your school subjects prepare you for your job?
_____ very great
_____ good
_____ moderate
_____ very little

12. What type of grades did you make in high school?
_____ Above average _____ Average _____ Below average

13. Which high school subjects do you feel best prepared you for your job?

14. Which high school subjects were least helpful in preparing you for your job?

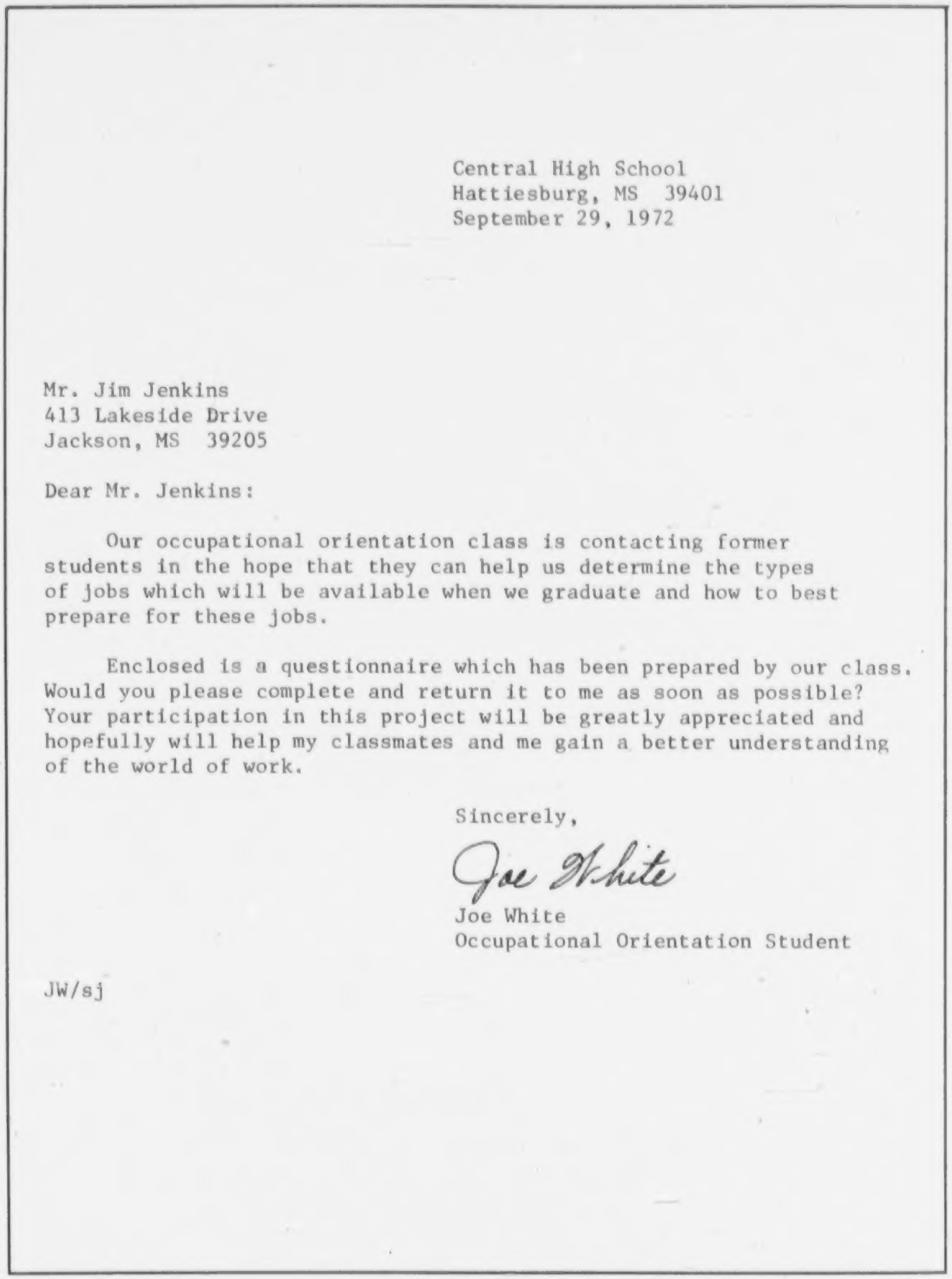
15. How do you like your job?
_____ Like it very well
_____ Like it fairly well
_____ Neither like nor dislike it
_____ Dislike it some
_____ Dislike it a great deal

16. What aspects of your job do you like the most?

17. What aspects of your job do you dislike the most?

18. Would you be willing to visit our occupational orientation class and answer questions about your work?

SAMPLE LETTER



Central High School
Hattiesburg, MS 39401
September 29, 1972

Mr. Jim Jenkins
413 Lakeside Drive
Jackson, MS 39205

Dear Mr. Jenkins:

Our occupational orientation class is contacting former students in the hope that they can help us determine the types of jobs which will be available when we graduate and how to best prepare for these jobs.

Enclosed is a questionnaire which has been prepared by our class. Would you please complete and return it to me as soon as possible? Your participation in this project will be greatly appreciated and hopefully will help my classmates and me gain a better understanding of the world of work.

Sincerely,

Joe White

Joe White
Occupational Orientation Student

JW/sj

APPENDIX H

Community Occupational Survey

In an effort to learn more about occupations and the job opportunities available in the local community, students may conduct a community survey. In conducting the survey the following steps may be followed:

1. Determine which businesses and organizations should be included in the survey. Preference should be given to those who have previously employed the greatest number of former students. The names of the firms may be obtained from the yellow pages of the local telephone book or from the local Chamber of Commerce. Governmental agencies including city, county, state, and national agencies, as well as public utilities such as the electric company, should be included. Farmers and others involved in agriculture should also be included in the survey.

2. Develop a survey similar to the one listed below which may be used to gather information about various available jobs in the community. Although a questionnaire may be mailed to various organizations, personal interviews are probably more effective. Appointments should be made by telephone prior to the visit.

COMMUNITY SURVEY FORM

1. Name of firm: 2. Type of business:

3. Number of employees:

4. Please list the types of beginning jobs in your organization and the approximate starting salaries.

5. Is part time or summer employment available for high school students?

6. What fringe benefits such as vacations, insurance, retirement, etc., are offered?

7. What type of education or special training is required for securing a job with your organization?

8. What sort of tests are given to job applicants?

9. What qualities do you look for in considering a person for employment?

10. Would you or a representative of your organization be willing to participate in a Career Day program or speak to our class about your firm?

3. The class may compile information into a community directory for use by students desiring information about occupations. Perhaps the class will have time to concentrate only on one area of employment in the community. For instance, the class may want to survey the retail stores in the area.

APPENDIX I

Newspaper Ad Abbreviations

In order to save time and money, many words in ads are abbreviated. Students may better understand these ads if they become familiar with the commonly used abbreviations listed below.

Adv. - Advancement
Appt. - Appointment
Attr. - Attractive
Bldg. - Building
Bus. - Business
Co. - Company
Comm. - Commission
Dept. - Department
Drv. lic. - Driver's licence
Equip. - Equipment
Eve. - Evening
Excel. - Excellent
Ex. - Experience
Gen. - General
Gd. sal. - Good salary
Hr. - Hour
Hrly. - Hourly
Hskpr. - Housekeeper
Hswk. - Housework
H. S. Grad. - High School Graduate
Immed. - Immediately
Info. - Information
Maint. - Maintenance
M/F - Male or female
Mgr. - Manager
Mfg. - Manufacturing
M-F - Monday through Friday

Mo. - Month
Natl. - National
Nec. - Necessary
Ofc. - Office
Oppty. - Opportunity
Ref. - References
Rel. - Reliable
Req. - Required
Rep. - Representative
Sec. - Secretary
Start. - Starting
Temp. - Temporary
Trans. - Transportation
Trk. - Truck
Typ. - Typing
Wk. - Week
Wkdys. - Week days
Wkly. - Weekly
W.P.M - Words per minute
Yr. - Year
Yrly. - Yearly

APPENDIX J

Games and Activities

What's My Line?

The game is patterned after the television show, "What's My Line?" Each student selects and researches a job in which he is interested. A panel of four students and a moderator and timekeeper are selected.

Each panel member is allowed to ask questions for one minute. At the end of one minute the timekeeper indicates that time is up and the next panel member asks questions for one minute. Students who are questioned can answer only "yes" or "no" and the moderator, possibly the teacher, might occasionally intervene to qualify answers.

If the panel does not guess the occupation in seven minutes, the student being questioned reveals his occupation. Depending on the amount of time allowed, the teacher may use more or less than seven minutes.

Twenty Questions

The game is patterned after the television show, "Twenty Questions," and may be played in the same manner as "What's My Line?" Each student selects and researches a job. A panel of four students tries to guess the occupation in twenty questions. The students answering the questions can only reply "yes" or "no."

Clues may be given at the beginning of the questioning. For instance, a student may tell that he has selected a job in Roe's Service category or a job which requires that a person work outdoors. A moderator will decide if the clues are adequate.

If the panel can't guess the job in twenty questions, then the person being questioned must reveal his occupation.

Transportation

Students in the classroom may be divided into two groups, or several teams of students may be designated. A situation may be given in which products are transported from one place to another. Each team lists jobs which would be involved in getting the products to their destination. The team naming the most jobs wins.

Emergency

Students may play a game in which teams of students name job areas involved in handling a particular emergency. For instance: A three-year-old boy has swallowed some lye. The telephone operator, doctor, nurse, etc., would be some of the people involved in handling the emergency. The team which names the most jobs is the winner.

Occupational Spinner Board

A maximum of approximately 100 questions concerning occupations may be placed on an occupational spinner board. An arrow attached to the board may be spun by students. Students must answer the question indicated by the stopping point of the arrow.

Occupational Board

A board containing relevant facts about jobs, such as educational requirements, technical educational requirements, entry age, working conditions, salary, and fringe benefits, may be prepared. Students are asked to prepare information on cards which correspond to the particular job which they have selected to investigate. These cards are placed on the board to be shared with the rest of the students in the class.

Manipulative Tasks

Various types of manipulative tasks may be performed in the classroom in order to help the student determine whether he is suited for or would like a particular type of job. For instance, students may want to get the feel of assembly-line work. They may first form a circle and each student should be given a handful of nuts and bolts. Each student should place the nuts on the bolts and place them so that the student next to him can take the nuts off the bolts. This procedure can be completed several times, thus giving students the feel of production line work.

Flash Cards

A flash card game may be played to impress upon students the need to get all the pertinent information before choosing an occupation. Hoppock gives the following description of a game he tried:

*To try it out on an average-ability seventh grade class, I prepared the following five flash cards:

1. $110.00 salary per week
2. Outdoor work
3. Physical work
4. College is not required
5. Most people in this field are employed in the city

After showing each card I asked how many would accept the job knowing only what was on the card. Five out of thirty wanted the job upon seeing card #1, seven more joined in upon seeing card #2, and by the time I got to card #5, twenty students had accepted the job. I then informed the 20 that they were all hired as garbagemen . . . By the time we played the game several times, most of the students had formulated a series of very sophisticated questions which they wanted answered before committing themselves to a job.

---

*Robert Hoppock, **Occupational Information**. (New York: McGraw-Hill Book Co., 1967), p. 295. Printed with permission.

Tracing Products

Students may trace a finished product from the buyer back to the raw materials. For instance, a shirt is purchased from the retailer, who buys from the wholesaler, who buys from the manufacturer. The manufacturer makes the shirt from cloth which was woven by another manufacturer. The cloth is made of cotton which has to be ginned. The farmer planted the seed and grew and harvested the cotton. Similar patterns can be worked out for a wide variety of finished products.

Way to School

Students may note the various types of businesses they see on their way to school and discuss the jobs of people who work there. Students thus become aware of a wide variety of occupations in their own neighborhoods.

Flow of Money

Students may play a game tracing the flow of money spent in the community. For instance, their parents gave the grocer money for food, the grocer paid the cashier with the same money, the cashier bought gas for his car with the money, the service station attendant's wife bought clothes for her children. The game can go on indefinitely in a number of variations. Students can thus see how various people in a community depend upon one another for services.

Activities Card

It is often difficult to provide work experiences for students within the classroom setting. Some teachers have encouraged their students to engage in activities outside of the classroom which will enable them to determine which types of work experiences they find most satisfying. Students may mow lawns, repair furniture, paint or wallpaper their rooms, wash dishes, sweep floors, prepare meals, sew clothes and perform many other activities around the house. An activity card listing the various work experiences of individual students may be prepared. Students may be given extra credit on their grades for performing outside work experiences and reporting to the class.

APPENDIX K

Banking Grading System

Teachers may use a grading system by which each student keeps a checking account and writes checks corresponding to the monetary value placed on his work by the teacher. Specific dollar amounts correspond to points needed to receive a certain letter grade. For instance, a student may be required by the teacher to earn 900 points or $900 for an A, 800 points or $800 dollars for a B, 700 points or $700 dollars for a C, and 600 points or $600 for a D. The student thus knows exactly the point or the dollar amount he has earned and the number of additional points or dollars he must earn to receive the grade he desires.

At the end of the grading period, the student who does not have enough dollars or points necessary to secure the grade which he desires, may ask the teacher for additional work to increase the monetary or point value of his grade. Besides knowing his grade at all times, the student learns how to keep a check book. Sample checks and check ledgers similar to the examples given in the publication may be printed and distributed to students.

O ______ $ ______
TE ______ 19 ____
TO ______
FOR ______

	DOLLARS	CENTS
BAL. BROT. FORD		
AMT. DEPOSITED		
" "		
TOTAL		
AMT. THIS CHECK		
BAL. CARD. FORD		

No. ______ ______ 19____

OCCUPATIONAL ORIENTATION BANK
Opportunity, MS

PAY TO THE ORDER OF ______ $______

______ DOLLARS

FOR ______

______

NON-NEGOTIABLE

NO ______ $ ______
DATE ______ 19 ____
TO ______
FOR ______

	DOLLARS	CENTS
BAL. BROT. FORD		
AMT. DEPOSITED		
" "		
TOTAL		
AMT. THIS CHECK		
. CARD. FORD		

No. ______ ______ 19____

OCCUPATIONAL ORIENTATION BANK
Opportunity, MS

PAY TO THE ORDER OF ______ $______

______ DOLLARS

FOR ______

______

NON-NEGOTIABLE

NO ______ $ ______
DATE ______ 19 ____
TO ______
FOR ______

	DOLLARS	CENTS
BAL. BROT. FORD		
AMT. DEPOSITED		
" "		
TOTAL		
AMT. THIS CHECK		
BAL. CARD. FORD		

No. ______ ______ 19____

OCCUPATIONAL ORIENTATION BANK
Opportunity, MS

PAY TO THE ORDER OF ______ $______

______ DOLLARS

FOR ______

______

NON-NEGOTIABLE

NO ______ $ ______
DATE ______ 19 ____
TO ______
FOR ______

	DOLLARS	CENTS
BAL. BROT. FORD		
AMT. DEPOSITED		
" "		
TOTAL		
T. THIS CHECK		
. CARD. FORD		

No. ______ ______ 19____

OCCUPATIONAL ORIENTATION BANK
Opportunity, MS

PAY TO THE ORDER OF ______ $______

______ DOLLARS

FOR ______

______

NON-NEGOTIABLE

OCCUPATIONAL ORIENTATION __________ CHECK LEDGER

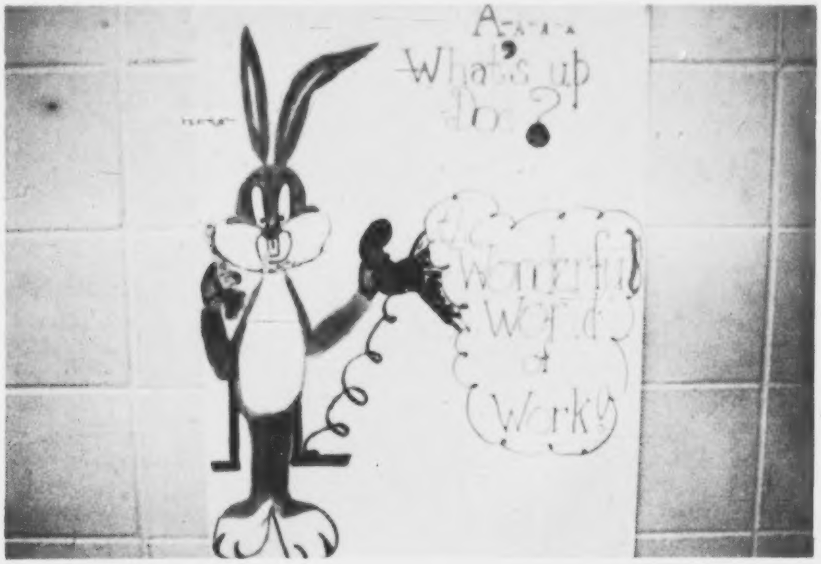
STUDENT NAME: ____

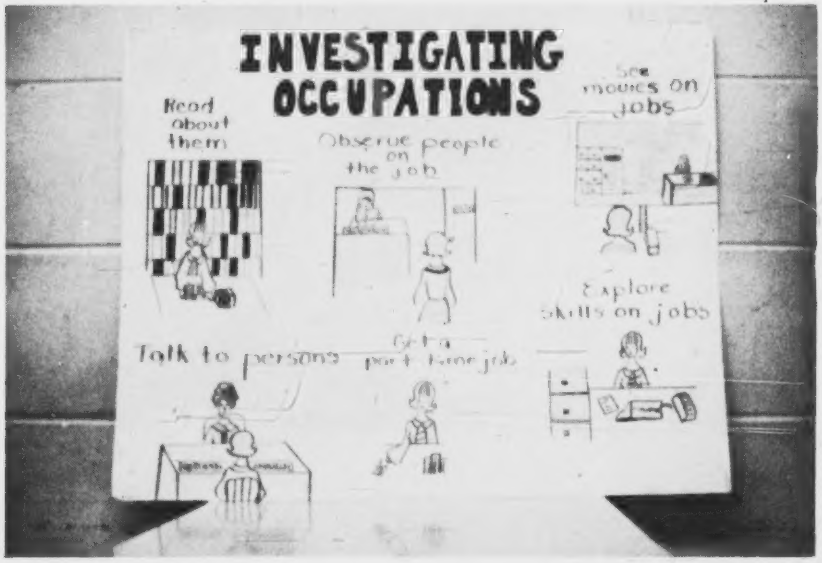
Check No.	Date	Check Issued For	Amount of Check	Date of Deposit	Amount of Deposit	Balance

APPENDIX L

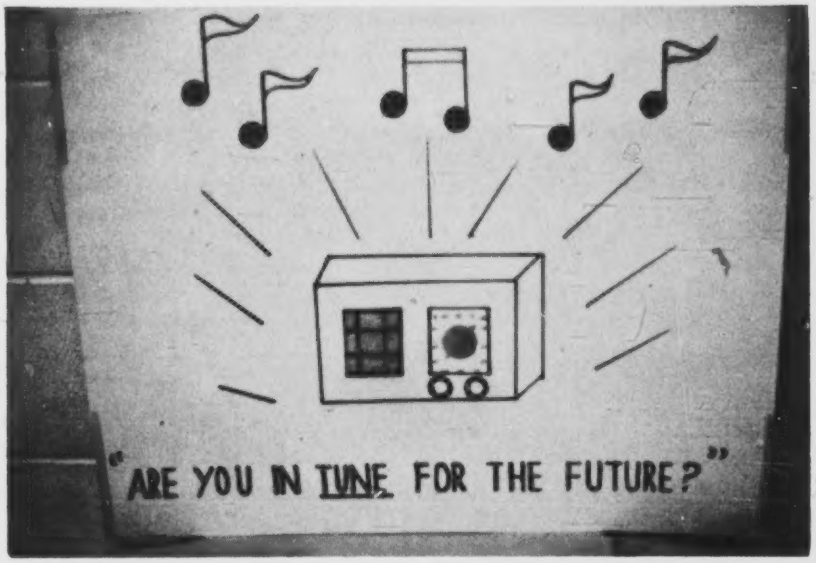
Posters

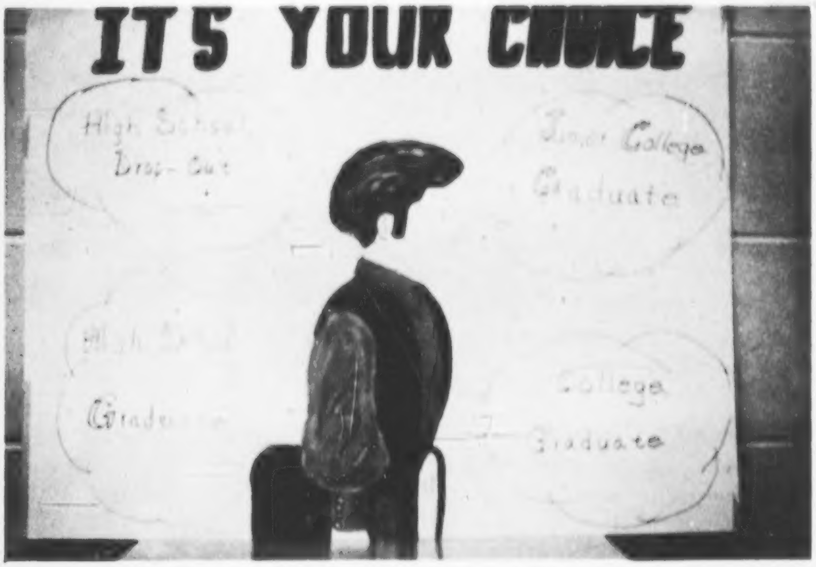
Students may draw posters which relate to the world of work and various occupations. The following pictures were taken of posters drawn by students in occupational orientation classes in the Jones County Exemplary Program.


A-a-a-a
What's up Doc?
A Wonderful World of Work!


INVESTIGATING OCCUPATIONS
Read about them
Observe people on the job
See movies on jobs
Explore skills on jobs
Talk to persons
Get a part time job

GET ON THE RIGHT TRACK
PLAN FOR YOUR FUTURE
NOW
SUCCESS


"ARE YOU IN TUNE FOR THE FUTURE?"


ITS YOUR CHOICE
High School Drop-Out
Junior College Graduate
High School Graduate
College Graduate

WHAT ARE YOU STIRRING UP FOR THE FUTURE ?

APPENDIX M

Tests and Inventories

If students develop a good understanding of themselves, they should be more highly motivated to investigate occupations and eventually make wise vocational choices. Tests and inventories often enable students, in a relatively short period of time, to find out more about their interests and abilities.

Interest Inventories

Interest inventories simply ~~indicate~~ those activities or occupations in which a student may be interested. In helping the student evaluate the results of interest inventories, the following factors should be kept in mind.

1. Interest inventories do not indicate ability. It is possible for a student to be interested in an occupation without having the ability to succeed in that occupation.
2. Interest inventories may help students recognize interests which they have not previously considered.
3. Interest inventories may help students confirm stated interests.
4. Interest inventories should never be used as the only index of interest, but should be evaluated in conjunction with other factors such as stated interests, individual observation, and activities in which students have engaged.

Since most school systems administer interest inventories on a special request basis, the teacher and school counselor may consider the feasibility of administering interest inventories to all students in the occupational orientation class. Listed below is information concerning interest inventories which are sometimes used in schools:

KUDER FORM E — GENERAL INTEREST SURVEY
Grade Range: 6 through 12
Testing Time: 30-40 minutes
Approximate cost per test: 35c
Source: Science Research Associates
259 Erie Street
Chicago, Illinois 60611

The inventory measures an individual's preference for activities which are grouped into ten areas: outdoor, mechanical, scientific, computational, persuasive, artistic, literary, musical, social service, and clerical.

Although a form of this inventory which must be machine scored is available, the consumable booklets which may be hand scored by students are preferred by many because results are available immediately after the inventories have been taken. Students may, therefore, become more involved.

OHIO VOCATIONAL INTEREST SURVEY (OVIS)
Grade Range: 8 through 12
Testing Time: 60-90 minutes
Approximate cost per test and scoring: $1.40
Source: Harcourt Brace Jovanovich, Inc.
Test Department
757 3rd Avenue
New York, New York 10017

The inventory measures a student's preference on the following 24 interest scales: manual work, machine work, personal services, caring for people or animals, clerical work, inspecting and testing, crafts and precise operations, customer services, nursing and related technical services, skilled personal service, training, literary, numerical, appraisal, agriculture, applied technology, promotion and communication, management and supervision, artistic, sales representative, music, entertainment and performing arts, teaching, counseling and social work, and medical.

Although this inventory gives the student a great wealth of information, it is more expensive than the Kuder and must be machine scored.

Scholastic Aptitude Tests

Scholastic aptitude tests, also referred to as "intelligence," "academic ability," and "mental ability" tests, are used to give a rough estimate of a student's ability to learn from books or from tasks required in school.

Aptitude tests typically given by school systems include instruments such as CALIFORNIA TEST OF MENTAL MATURITY, OTIS-LENNON MENTAL ABILITY TEST, SRA PRIMARY MENTAL ABILITIES TEST, and the LORGE-THORNDIKE INTELLIGENCE TEST. Assistance from the school counselor may be obtained in finding out which aptitude test were administered and in interpreting test results to students in occupational orientation classes.

Aptitude test score results should always be related to students in general terms rather than specific scores or IQ scores.

The GENERAL APTITUDE TEST BATTERY (GATB) is administered by the local branches of the state employment service and measures nine factors which include: general reasoning ability, verbal aptitude, numerical aptitude, spatial aptitude, form perception, clerical perception, motor coordination, finger dexterity, and manual dexterity. They may, upon request, administer the GATB to high school students.

Achievement Tests

Achievement tests measure the effects of a specific program of instruction or training, for instance, a course in chemistry. Achievement tests attempt to measure what a student has already learned, whereas aptitude tests predict future performance.

Tests such as the CALIFORNIA ACHIEVEMENT TESTS and STANFORD ACHIEVEMENT TEST are used in many school systems. The school counselor should be familiar with tests used in the school system.

Factors to Consider in Selecting a Test

RELIABILITY — Tests should be reliable, or consistently give the same results. If a person took the same test several times and received significantly different results, he could not really depend upon these results.

VALIDITY — Tests should measure what the test constructors say it will measure. For instance, a test which purports to measure mechanical aptitude is not valid if it actually measures ability in math. It makes no difference if a test is reliable if it is not also valid. Such a test would merely be consistently measuring the wrong thing.

STANDARDIZATION — Tests are standardized when uniform procedures for administering and scoring the tests have been established. In order to compare the scores of different persons on the same test, it is obvious that testing conditions must be the same each time the test is administered. The test constructor must therefore establish detailed instructions for administering the test. Factors such as time limits and instructions to subjects, must be held constant. It is imperative that the person administering the tests adhere rigorously to the instructions given in the test booklet.

NORMS — A norm is the average or normal performance. In order to be reasonably sure that the average performance is being determined, tests should be given to a large representative sample of the types of subjects for whom the tests are designed.

In administering tests to students, it should be determined if they are similar in age, sex, background, and other factors to those students upon whom the test was normed. For instance, one would probably be hesitant to test students in Mississippi with an ability test normed on children in South America, because he would not know how much similarity there is in the two groups of children.

PRACTICALITY — Tests should have reasonable time limits. Whenever possible, one should try to secure tests which may be completed during a typical classroom period. Hopefully, the tests which are chosen will be easy to understand and score. Cost is another factor which helps in determining if a test is practical. For instance, a test which costs $50 per student, takes two weeks to administer and five hours to score, would probably be impractical for administration in the typical school setting.

APPENDIX N

Classification of Media

Experiences which provide for maximum student involvement and most closely resemble actual work situations usually have the most impact upon students. The methods listed below of exposing students to occupational orientation range from least active to most active student involvement. Priority should be given to experiences which call for the most student involvement.

SCHEMATIC CLASSIFICATION OF MEDIA AND SPECIFIC METHODS FOR UTILIZING OCCUPATIONAL INFORMATION WITH PERSONS ON AN INDIVIDUAL GROUP BASIS.*

Classification**	Media**	Specific Methods
PRESTRUCTURED AND FIXED	Publications	Biographies Magazines and periodicals Newspapers (editorial, features, and commentaries) Booklets and brochures Reference books Career fiction Songs and Poems Occupational brief, abstract, monograph and guide
	Audio-visual aids	Bulletin board, display, exhibits, posters and charts Murals and art Phonograph, video tapes, and tape recordings Radio and television Movie and film Slides, films, and filmstrips
	Planned programs	Assembly programs Career day Panels and career talks
INPUT CONTROLLED BY THE INDIVIDUAL	Programmed instruction	Vocational workbook Reports by individual Occupational exploration kits
	Computer-assisted information	VIEW Computer assisted information systems
	Interview	Conferences with workers and personnel officers Making a job analysis Group discussions Job clinic Career conferences
SIMULATION OF SITUATION	Role-playing and/or games	Quiz contest Dramatization and role-playing Practice job interview Game theory activities Brainstorming
	Synthetic occupational environment	Clubs (career) Laboratory study
REAL SITUATION	Direct observation	Visitation to places of work (plant tours, field trips) Foster uncle and aunt
	Directed exploration	Occupational units Occupational courses Occupational curriculums Exploratory job
	Actual occupational experience	Work experience programs On-the-job training Temporary job Entry job

*Joseph W. Hollis and Lucile V. Hollis, **Personalizing Information Processes.** (New York: The Macmillan Co., 1969), pp. 292-293. Printed with permission.

**Source: "Classification" and "Media" based on comments by Albert S. Thompson at the U. S. Office of Education, National Conference on Occupational Information in Vocational Guidance. Chicago, Illinois, May 16-18, 1967.

APPENDIX O

Types of Printed Materials

Listed below are various types of publications with which teachers and students of occupational orientation should become familiar.

CAREER MATERIALS*

Career Fiction: An account, portrayed through the experiences of one or more fictional characters, of an occupation which may encompass duties, qualifications, preparations, conditions and nature of work and advancement.

Biography: An account of the life of a successful man or woman in a given field of endeavor portraying the problems faced by these people in preparing for and advancing in their careers.

Occupational Monograph: (about 4,000 to 8,000 words) Extensive coverage of all phases of an occupation. A detailed, comprehensive analysis of a field of work and its related occupations.

Occupational Brief: (about 3,000 words) Covers the various types of specialization in an occupational field in general terms. Not as extensive as a Monograph, yet describes all phases of the various job opportunities. Usually prose style.

Occupational Abstract: (about 1500 words) A concise summary of a job in an occupational area citing the duties and nature of employment, etc., in general terms. May be in prose or outline form.

Occupational Guide: Brief facts about various phases of an occupational title. Contains general information about the occupation but does not describe any particular job. May be in outline form. Often a booklet or leaflet.

Job Series: Broad coverage of an entire occupational area giving brief accounts of all job opportunities in the field. May be book, manual or article.

Business and industrial descriptive literature: Describes a particular business or industry. May show scope and pattern of occupational opportunities.

Occupational or industrial description: Describes the principal opportunities of an occupation in *one* industry or *one* occupation in several industries. Discusses an occupation as it relates to employment opportunities in industry. May include a brief account of the industry or industries.

Recruitment literature: Descriptive promotional information pointed toward recruiting young men and women in an occupational or career field. Brief coverage of facts.

Poster or chart: Occupational information presented by pictures, graphs, tables, etc., in black and white or color, portraying information about jobs, opportunities, trends, qualifications and preparation. Data in concise summarized form permitting a quick review of or stimulating an interest in a major occupational group.

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*National Vocational Guidance Information Review Service Committee, Dara Patterson, Chairman, **NVGA Bibliography of Current Occupational Literature.** (Washington, D.C.: National Vocational Guidance Association, 1956), pp. 7-8. Title supplied.

CAREER MATERIALS continued:

Article or reprint: An account of an occupation, a phase of an occupation or a person performing the occupation. Covers most phases of the job. Varies in length and degree of coverage. May also be a fact sheet, series of tables, etc. Usually, but not necessarily, in prose style. May be a newspaper, magazine or other publication.

Community survey, economic report, job analysis: Very accurate, highly statistical, comprehensive reports made as the result of local, national or industrial studies. Professional studies not easily adapted to student use.

Other: Specialized occupational studies, general occupational reviews, technical reports or portions thereof, if applicable, and other miscellaneous occupational information. Information presented by types other than those listed above should be accounted for here. Includes occupations in relation to specific college curricula.

APPENDIX P

Sources of Career Information

Career Kits

Listed below are just a few of the many career kits which are available from commercial firms. Adaptations of these kits are also available. It is important that yearly subscriptions for new information be obtained to keep kits up-to-date.

OCCUPATIONAL EXPLORATION KIT (OEK)
Grade Range: 9 through 12
Cost: $115.00
Contents: 400 Occupational Briefs
17 Job Family Booklets
8 Guidance Series Booklets
25 Student Record Books
Guide for Counselors and Teachers
Occu Scan
Source: Science Research Associates
259 East Erie Street
Chicago, Illinois 60611

Many occupational orientation teachers find this career kit to be almost indispensable in conducting their classes. Although the classification system used by SRA is relatively simple, it does not correlate well with other filing systems.

WIDENING OCCUPATIONAL ROLES KIT (WORK)
Grade Range: 6 through 9
Cost: $170.00
Contents: 400 Junior Occupational Briefs
5 Junior Guidance Booklets
35 Student Workbooks
Teacher's Manual
5 Color Filmstrips
Source: Science Research Associates
259 East Erie Street
Chicago, Illinois 60611

Some junior high teachers prefer the WORK over the OEK. The occupational briefs are more colorfully illustrated and written at a simpler level. Each brief gives a short fictional story which describes a typical worker in the occupation presented. Jobs are classified as those which deal primarily with things, primarily with people or animals, and primarily with ideas.

DESK TOP CAREER KIT
Grade Range: Senior High School
Cost: $117.50

Contents: 1,000 items which include career briefs, career summaries, career reprints, and job guides.
Source: Careers, Inc.
P. O. Box 135
Largo, Florida 33540

DESK TOP CAREER KIT

Grade Range: Junior High School
Cost: $107.50
Contents: 900 items which include career briefs, career summaries, career reprints, and job guides.
Source: Careers, Inc.
P. O. Box 135
Largo, Florida 33540

These kits are easy to use and provide sketches of a wide variety of occupations. The contents of the kits are classified according to DOT classification which is used for occupational materials printed by the government. However, the DOT coding is complicated, and special training may be required to use it. Although the card size materials may be easy for the teacher to handle, some students may have difficulty in handling these smaller briefs.

CHRONICLE PLAN

Grade Range: High School
Cost: $338.00
Contents: Over 300 briefs
100 reprints
Posters
Source: Chronicle Guidance Publications, Inc.
Moravia, N.Y. 13118

This kit is housed in an attractive metal cabinet mounted on casters and thus may be easily moved. The DOT classification system is used, and adequate room is available for classifying additional career materials. However, the DOT coding is complicated, and special training may be required to use it. Less expensive kits containing some of the same information are also available.

Guides for Students

APPLYING FOR A JOB

Cost: $2.95

SUCCEEDING ON THE JOB

Cost: $3.25

SUPERVISING ON THE JOB

Cost: $3.45
Source: The Interestate Printers and Publishers, Inc.
Danville, Illinois 61832

Each guide contains cards with questions on the front and answers on the back. Students may be effectively motivated to learn about the work-world by using the cards which are organized as games.

Professional Journals

Although many professional journals may be of great value to the occupational orientation teacher, the following publications may be especially helpful.

THE VOCATIONAL GUIDANCE QUARTERLY
Cost: $6.00
Source: National Vocational Guidance Association
1605 New Hampshire Avenue, N.W.
Washington, D.C. 20009

This publication is heavily orientated toward career development. Articles by outstanding persons in the field provide not only good theoretical information but also practical suggestions which may be applied in the classroom. Information concerning free and inexpensive current occupational literature is given at the end of each publication.

AMERICAN VOCATIONAL JOURNAL
Cost: $6.00 a year
Source: American Vocational Association, Inc.
1510 H Street, N.W.
Washington, D.C. 20005

Over the past few years, this publication has placed a great deal of emphasis upon career development. Many articles give practical suggestions concerning the implementation of career development activities.

Government Publications

A wealth of information is available from agencies of the United States government. Since it is beyond the scope of this publication to give comprehensive coverage to this area, only some of the more widely used publications are listed. These publications may be ordered from:

Superintendent of Documents
U.S. Government Printing Office
Washington 25, D.C. 20402

The purchaser should designate the full title of the publication and the name of the agency preparing it. The following publications were prepared by the Department of Labor:

DICTIONARY OF OCCUPATIONAL TITLES Volume I and II
Cost: $12.00

Volume I contains 35,500 job titles and descriptions of occupations which are listed alphabetically. DOT numbers are assigned to each title. Volume II contains the same job titles listed in DOT number sequence and a section in which job titles are arranged according to industry. Information relating to the last three digits of the DOT number concerning worker traits and requirements for different jobs is also given. Although the DOT may be too complicated for easy use by some students, it is a must for every classroom.

OCCUPATIONAL OUTLOOK HANDBOOK

Cost: $6.25

More than 700 occupations representing a large percentage of the work force are included. A photograph and information concerning the nature of the work, places of employment, training, other qualifications, and advancement; employment outlook; earnings and working conditions; and sources of additional information are included for each occupation. Another section treats occupations within various industries such as the restaurant or banking industries. The handbook is written in simple, easy to understand manner which should appeal to most students. The teacher may consider ordering more than one handbook for the class.

OCCUPATIONAL OUTLOOK QUARTERLY

Cost: $1.50 per year

This periodical, which is published four times a year, presents current information on employment trends and outlook in occupations and provides a valuable supplement to the OCCUPATIONAL OUTLOOK HANDBOOK.

OCCUPATIONAL OUTLOOK REPRINTS

Cost: 10¢ to 20¢ each

Reports in the OCCUPATIONAL OUTLOOK HANDBOOK covering a single occupation, an industry, or a group of related occupations are reprinted under separate covers, thus making this information more readily available to students. A full set of 128 reprints may be ordered for less than $20.

COUNSELOR'S GUIDE TO OCCUPATIONAL AND OTHER MANPOWER INFORMATION

Cost: $1.00

This publication gives an annotated bibliography of federal and state publications relating to occupational information.

JOB GUIDE FOR YOUNG WORKERS

Cost: $1.50

This publication includes 82 Occupational Briefs containing information on 150 jobs. Sections on usual duties, characteristics of the job, qualifications, employment prospects, advancement opportunities, and finding the job are included for each brief. Additional sources of free and inexpensive occupational information which may be helpful to both students and teachers are explained at the end of the publication. This inexpensive book is well worth the price.

WALL CHART SERIES
Free

Charts 12½" X 17" with information about outlook, employment, earnings, and number of workers in various occupations may be obtained by writing the Bureau of Labor Stastics, U. S. Department of Labor, Washington, D.C. 20212.

APPENDIX Q

Resources

Free Printed Materials

1. Accounting Careers Council
   National Distribution Center
   P. O. Box 650, Radio City Station
   New York, New York 10019

   a. CAREER AS A CERTIFIED PUBLIC ACCOUNTANT (IX Organization)

   b. WHAT'S IT LIKE TO BE AN ACCOUNTANT? (IX Organization)

2. Addressograph Multigraph Corporation
   Direct Mail Center
   P. O. Box 3176
   Cleveland, Ohio 44117

   a. GRAPHIC COMMUNICATIONS — NOT JUST A JOB BUT A CAREER (X Technology)

3. Aluminum Company of America
   Chemicals Division
   1391 Alcoa Building
   Pittsburgh, Pennsylvania 15219

   a. CERAMICS — UNLIMITED HORIZONS (X Technology)

   b. CERAMICS — TODAY'S TECHNOLOGY, TOMMORROW'S FUTURE (X Technology)

4. American Advertising Federation
   Bureau of Education and Research
   1225 Connecticut Avenue, N.W.
   Washington, D.C. 20036

   a. COMMERCIAL ARTIST, THE (XIV Arts & Entertainment)

   b. COPYWRITER, THE (XIV Arts & Entertainment)

   c. JOBS IN ADVERTISING (IX Organization)

5. American Anthropological Association
   1703 New Hampshire Avenue, N.W.
   Washington, D.C. 20009

   a. WHAT IS ANTHROPOLOGY? (XII Science)

6. American Association of Advertising Agencies
200 Park Avenue
New York, New York 10017

a. ADVERTISING: A CAREER OF ACTION AND VARIETY FOR EXCEPTIONAL MEN AND WOMEN (IX Organization)

7. American Association of Law Libraries, The
Secretary
53 West Jackson Boulevard
Chicago, Illinois 60604

a. LAW LIBRARIANSHIP (XIII General Cultural)

8. American Astronomical Society
311 Fitz Randolph Road
Princeton, New Jersey 08540

a. CAREER IN ASTRONOMY, A (XII Science)

9. American Baker's Association
1700 Pennsylvania Avenue, N.W.
Washington, D.C. 20006

a. CAREERS UNLIMITED IN THE MODERN BAKING INDUSTRY (X Technology)

10. American Banker's Association, The
Banking Education Committee
90 Park Avenue
New York, New York 10016

a. BANKING — AN OPPORTUNITY FOR YOU (IX Organization)

11. American Bar Association
Information Service
1155 E. 60th Street
Chicago, Illinois 60637

a. PROFESSION OF LAW, THE (XIII General Cultural)

12. American Board of Opticianry
Executive Secretary
821 Eggert Road
Buffalo, New York 14226

a. OPTICIANRY (XII Science)

13. American Camping Association
Bradford Woods
Martinsville, Indiana 46151

a.	CAREERS IN CAMPING	(XI Outdoor)

14. American Ceramics Society, Inc.
4055 North High Street
Columbus, Ohio 43214

a.	FOR CAREER OPPORTUNITIES EXPLORE THE WONDER WORLD OF CERAMICS	(X Technology)

15. American Chemical Society
1155 16th Street, N.W.
Washington, D.C. 20036

a.	CHEMISTRY AND YOUR CAREER	(XII Science)
b.	IS CHEMICAL TECHNOLOGY THE CAREER FOR YOU?	(XII Science)

16. American Chiropractic Association
Department of Education
2200 Grand Avenue
Des Moines, Iowa 50312

a.	PLANNING A CAREER IN CHIROPRACTIC	(XII Science)

17. American Congress on Surveying and Mapping
430 Woodward Building
733 15th Street, N.W.
Washington, D.C. 20005

a.	CAREERS IN SURVEYING AND MAPPING	(XI Outdoor)

18. American Dental Association
Council on Dental Education
211 East Chicago Avenue
Chicago, Illinois 60611

a.	CAREERS IN DENTISTRY	(XII Science)
b.	DENTISTRY — A CAREER FOR WOMEN	(XII Science)

19. American Dental Assistant's Association
Room 1230
211 East Chicago Avenue
Chicago, Illinois 60611

a.	DENTAL ASSISTING	(XII Science)

20. American Dental Hygienist's Association
Division of Educational Services
211 East Chicago Avenue
Chicago, Illinois 60611

a. CAREERS IN DENTAL HYGIENE (XII Science)

21. American Dietetic Association, The
620 North Michigan Avenue
Chicago, Illinois 60611

a. DIETETIC INTERNSHIP, A (XII Science)

b. DIETETICS AS A PROFESSION (XII Science)

c. DIETETICS — HOW SWEET IT IS (XII Science)

22. American Federation of Information Processing Societies
210 Summit Avenue
Montvale, New Jersey 07645

a. COMPUTER CAREERS (X Technology)

23. American Federation of Musicians, The
641 Lexington Avenue
New York, New York 10022

a. MUSIC IS YOUR BUSINESS (XIV Arts & Entertainment)

24. American Federation of Teachers, The
1012 14th Street, N.W.
Washington, D.C. 20005

a. TEACHING AS A CAREER (XIII General Cultural)

25. American Forestry Association
919 17th Street, N.W.
Washington, D.C. 20006

a. SO YOU WANT TO BE A FORESTER (XI Outdoor)

b. YOU CAN BE A CONSERVATIONIST (XII Science)

26. American Forest Institute
1835 K Street, Northwest
Washington, D.C. 20006

a. THIS IS A TREE COUNTRY (XI Outdoor)

27. American Geophysical Union
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037

a. INFORMATION CONCERNING GEOPHYSICS (XII Science)

28. American Hotel & Motel Association
888 7th Street
New York, New York 10019

a. CHOOSE A HOTEL/MOTEL CAREER (VII Service)

29. American Institute of Aeronautics and Astronautics, The
1290 Avenue of the Americas
New York, New York 10019

a. YOUR CAREER AS AN AEROSPACE ENGINEER (X Technology)

30. American Institute of Architects, The
1735 New York Avenue, N.W.
Washington, D.C. 20006

a. DESIGNING A BETTER TOMORROW (XIV Arts & Entertainment)

31. American Institute of Biological Sciences
Office of Biological Education
3900 Wisconsin Avenue, N.W.
Washington, D.C. 20016

a. CAREERS IN BIOLOGY (XII Science)

32. American Institute of Industrial Engineers
345 East 47th Street
New York, New York 10017

a. INDUSTRIAL ENGINEERING (X Technology)

33. American Institute of Nutrition
Rockville Pike
Bethesda, Maryland 20014

a. CAREERS IN NUTRITION (XII Science)

34. American Institute of Physics
335 East 45th Street
New York, New York 10017

a. PHYSICS AS A CAREER (XII Science)

35. American Library Association, The
50 East Huron Street
Chicago, Illinois 60611

- a. CHILDREN'S LIBRARIAN, THE (XIII General Cultural)
- b. FUTURE UNLIMITED (XIII General Cultural)
- c. LIVELY CONCERN OF A SCHOOL LIBRARIAN, THE (XIII General Cultural)
- d. PUBLIC LIBRARIAN, THE (XIII General Cultural)
- e. WHO IN THE WORLD WANTS TO BE A LIBRARIAN? (XIII General Cultural)

36. American Medical Association
535 North Dearborn Street
Chicago, Illinois 60610

- a. HORIZONS UNLIMITED (XII Science)
- b. OPPORTUNITIES AND REWARDS OF MEDICINE CAN BE YOURS, THE (XII Science)

37. American Medical Record Association
211 E. Chicago Street
Chicago, Illinois 60611

- a. MEDICAL RECORD LIBRARIAN — KEY MEMBER OF THE MEDICAL TEAM (XII Science)

38. American National Cattlemen's Association
Curriculum Materials Department
1540 Emerson Street
Denver, Colorado 80218

- a. YOUNG CATTLEMEN, THE (XI Outdoor)

39. American Newspaper Publisher's Association Foundation
750 3rd Avenue
New York, New York 10017

- a. YOUR FUTURE IN DAILY NEWSPAPERS (XIII General Cultural)

40. American Nurse's Association, Inc.
ANA - NLN Committee on Nursing Careers
10 Columbus Circle
New York, New York 10019

- a. NURSING CAN TURN YOU ON (XII Science)

41. American Occupational Therapy Association
Division of Public Information and Recruitment
251 Park Avenue South
New York, New York 10010

a. A-B-C'S OF OCCUPATIONAL THERAPY (VII Service)

b. OCCUPATIONAL THERAPY HANDBOOK (VII Service)

42. American Optometric Association, Inc.
Division of Public Information
7000 Chippewa Street
St. Louis, Missouri 63119

a. WHAT IS AN OPTOMETRIST? (XII Science)

43. American Osteopathic Association
Department of Public Relations
212 East Ohio Street
Chicago, Illinois 60611

a. HEALTH CAREERS — OSTEOPATHIC MEDICINE (XII Science)

44. American Personnel and Guidance Association
Publication Sales
1607 New Hampshire Avenue, N.W.
Washington, D.C. 20009

a. COUNSELING: A HELPING RELATIONSHIP (VII Service)

45. American Petroleum Institute
Division of Marketing
1271 Avenue of the Americas
New York, New York 10020

a. PETROLEUM MARKETING (IX Organization)

b. BUILDING A FUTURE IN A BUSINESS OF YOUR OWN (IX Organization)

c. GOING PLACES IN OIL (XII Science)

46. American Pharmaceutical Association
2215 Constitution Avenue, N.W.
Washington, D.C. 20037

a. SEE YOUR FUTURE IN PHARMACY (XII Science)

47. AMERICAN PHYSICAL THERAPY ASSOCIATION
1156 15th Street, N.W.
Washington, D.C. 20005

a.	CAREERS IN PHYSICAL THERAPY	(VII Service)

48. American Physiological Society
9650 Rockville Pike
Bethesda, Maryland 20014

a.	CONSIDER PHYSIOLOGY	(XII Science)

49. American Psychological Association, The
1200 17th Street, N.W.
Washington, D.C. 20006

a.	CAREER IN INDUSTRIAL PSYCHOLOGY, A	(VII Service)
b.	CAREER IN PSYCHOLOGY, A	(VII Service)

50. American Society for Horticultural Science
P.O. Box 109
St. Joseph, Michigan 49085

a.	HORTICULTURE — A REWARDING CAREER	(XII Science)

51. American Society for Metals
Metals Park, Ohio 44073

a.	CAREER OPPORTUNITY WILL EXTEND YOUR REACH, A	(X Technology)
b.	MATERIALS ENGINEER TODAY AND TOMORROW, THE	(X Technology)

52. American Society for Microbiology
1913 Eye Street, N.W.
Washington, D.C. 20006

a.	MICROBIOLOGY IN YOUR FUTURE	(XII Science)

53. American Society of Agricultural Engineers
St. Joseph, Michigan 49085

a.	AGRICULTURAL ENGINEERING	(X Technology)

54. American Society of Agronomy
677 South Segol Road
Madison, Wisconsin 53711

a. CAREERS IN AGRONOMY — CROP SCIENCE AND SOIL SCIENCE (XII Science)

55. American Society of Animal Science
113 North Neil Street
Champaign, Illinois 61820

a. CAREER IN ANIMAL SCIENCES (XII Science)

56. American Society of Civil Engineers
345 East 47th Street
New York, New York 10017

a. YOUR FUTURE IN CIVIL ENGINEERING (X Technology)

57. American Society of Heating, Refrigerating, and Air-Conditioning Engineers
345 East 47th Street
New York, New York 10017

a. YOUR FUTURE IN AIR-CONDITIONING, HEATING, AND REFRIGERATOR ENGINEERING (X Technology)

58. American Society of Landscape Architects
2013 Eye Street, N.W.
Washington, D.C. 20006

a. LANDSCAPE ARCHITECT AND LAND PLANNING, THE (XI Outdoor)

59. American Society of Mechanical Engineers, The
United Engineering Center
345 East 47th Street
New York, New York 10017

a. MECHANICAL ENGINEERING (X Technology)

60. American Society of Medical Technology
Suite 1600
Hermann Prof. Bldg.
Houston, Texas 77025

a. CAREERS IN THE MEDICAL LABORATORY (XII Science)

b. WHAT KIND OF CAREER COULD I HAVE IN A MEDICAL LABORATORY? (XII Science)

61. American Society of Radiologic Technologists
645 North Michigan Avenue
Room 620
Chicago, Illinois 60611

a. CAREERS IN X-RAY TECHNOLOGY (XII Science)

62. American Society of Range Management
2120 South Birch Street
Denver, Colorado 80222

a. CAREER OPPORTUNITIES IN RANGELAND AND RESOURCE MANAGEMENT (XI Outdoor)

63. American Speech and Hearing Association
Kenneth O. Johnson, Ph.D. Executive Director
9030 Old Georgetown Road
Washington, D.C. 20014

a. SPEECH PATHOLOGIST AND AUDIOLOGY — CAREER INFORMATION (VII Service)

64. American Statistical Association, The
810 18th Street, N.W.
Washington, D.C. 20006

a. CAREERS IN STATISTICS (XII Science)

65. American Textile Manufacturing Institute, Inc.
1501 Johnston Bldg.
Charlotte, North Carolina 28202

a. YOUR CAREER IN TEXTILES (X Technology)

66. American Trucking Association, Inc.
Education Section Public Relations Department
1616 P Street, N.W.
Washington, D.C. 20036

a. ON THE ROAD WITH THE TRUCKERS (X Technology)

b. OPPORTUNITIES IN THE TRUCKING INDUSTRY (X Technology)

c. WHEELS FOR AMERICA'S PROGRESS (X Technology)

67. American Veterinary Medicine Association
600 South Michigan Avenue
Chicago, Illinois 60605

a. TODAY'S VETERINARIAN (XII Science)

68. American Watchmaker's Institute
P.O. Box 11011
Cincinnati, Ohio 45211

a. CAREERS IN WATCH REPAIRING (X Technology)

69. American Welding Society
345 East 47th Street
New York, New York 10017

a. OPPORTUNITIES IN THE WELDING INDUSTRY (X Technology)

70. American Women in Radio and Television, Inc.
1321 Connecticut Avenue, N.W.
Washington, D.C. 20036

a. CAREERS FOR WOMEN IN BROADCASTING (XIII General Cultural)

71. Archaeological Institute of America
260 West Broadway
New York, New York 10003

a. ARCHAEOLOGY AS A CAREER (XII Science)

72. Associated General Contractors of America
1957 E Street, N.W.
Washington, D.C. 20006

a. CONSTRUCTION: A MAN'S WORK (X Technology)

b. CONSTRUCTION INDUSTRY OPPORTUNITIES (X Technology)

73. Association of American Railroads
American Railroads Building
Washington, D.C. 20036

a. HUMAN SIDE OF RAILROADS, THE (X Technology)

b. RAILROADS IN ACTION (X Technology)

74. Association of Home Appliance Manufacturers
20 North Walker Drive
Chicago, Illinois 60606

a. YOUR CAREER AS AN APPLIANCE SERVICE TECHNICIAN (X Technology)

75. Automotive Service Industry Association
230 N. Michigan Avenue
Chicago, Illinois 60606

a. PLAN YOUR CAREER IN THE AUTOMOTIVE SERVICE INDUSTRY (X Technology)

76. Botanical Society of America
Office of the Secretary
Botany Department
Rutgers University
New Brunswick, N.J. 08903

a. BOTANY AS A PROFESSION (XII Science)

77. Business Equipment Manufacturer's Association
1828 L Street, N.W.
Washington, D.C. 20036

a. COMPUTER CAREERS BROCHURE (X Technology)

78. Casualty Actuarial Society
200 East 42nd Street
New York, New York 10017

a. ESSENTIAL EXECUTIVE, THE (IX Organization)

79. Chemical Institute of Canada, The
Suite 906
151 Slater Street
Ottawa 4, Ontario, Canada

a. YOUR CAREER AS A CHEMIST (XII Science)

b. YOUR CAREER IN CHEMICAL ENGINEERING (X Technology)

80. Council on Opportunities in Selling, Inc., The
630 3rd Avenue
New York, New York 10017

a. OPPORTUNITIES IN SELLING (VIII Business Contact)

81. Crayon, Water Color, and Craft Institute, Inc., The
Eden Hill Road
Newton, Connecticut 06470

a. TEACHING ART AS A CAREER (XIV Arts & Entertainment)

82. Eaton Paper Company
75 South Church Street
Pittsfield, Massachusetts 01201

- a. PERFECT SECRETARY, THE (IX Organization)

83. Edison Electric Institute
750 3rd Avenue
New York, New York 10017

- a. ARE YOU A MAN OF ENERGY? (X Technology)

84. Edmund Scientific Co.
555 Edscrop Building
Barrington, New Jersey 08007

- a. ASTRONOMY AND YOU (XII Science)

85. Electronic Industries Association
Consumer Product Division
2001 Eye Street, N.W.
Washington, D.C. 20006

- a. ELECTRONIC SERVICE TECHNICIAN, THE — FUTURES UNLIMITED (X Technology)

86. Engineers' Council for Professional Development
345 East 47th Street
New York, New York 10017

- a. ENGINEERING: A CHALLENGE (X Technology)
- b. ENGINEERING: A CAREER OF OPPORTUNITY (X Technology)

87. Entomological Society of America
4603 Calvert Road
College Park, Maryland 20740

- a. ENTOMOLOGY — AN EXCITING SCIENTIFIC CAREER (XII Science)

88. Federal Bureau of Investigation
Director
Washington, D.C. 20535

- a. FBI CAREER OPPORTUNITIES (VII Service)

89. Field Enterprises Educational Corporation
Educational Services
Merchandise Mart Plaza
Chicago, Illinois 60654

a. LIBRARY (XIII General Cultural)

90. Future Farmer's Supply Service, The
Alexandria, Virginia 22306

a. AGRICULTURE — MORE THAN FARMING CAREERS UNLIMITED (XI Outdoor)

91. Gemological Institute of America
Registrar's Office
11940 San Vincente Boulevard
Los Angeles, California 90049

a. GEMOLOGY AS A CAREER (XII Science)

92. General Electric Company
Educational Publications
Schenectady, New York 12305

a. TECHNICIAN AND TOMORROW, THE (X Technology)

93. General Motors Corporation
Public Relations Staff
Detroit, Michigan 48202

a. CAN I BE A CRAFTSMAN? (X Technology)

b. CAN I BE A DRAFTSMAN? (X Technology)

c. CAN I BE AN ENGINEER? (X Technology)

d. CAN I BE A MATHEMATICIAN? (XII Science)

e. CAN I BE AN OFFICE WORKER? (IX Organization)

f. CAN I BE A SCIENTIST? (XII Science)

g. CAN I BE A TECHNICIAN? (X Technology)

h. CAN I GET A JOB? (XV Locating and Applying for a Job)

i. CAN I MAKE THE PRODUCTION TEAM? (XV Locating and Applying for a Job)

94. Georgia-Pacific
Public Relations
900 S.W. 5th Avenue
Portland, Oregon 97204

a. HOW YOU CAN BECOME A TREE FARMER (XI Outdoor)

95. Germain School of Photography
225 Broadway
New York, New York 10007

a. CAREERS IN PHOTOGRAPHY (XIV Arts & Entertainment)

96. Glidden-Durkee Division
SCM Corporation
900 Union Commerce Building
Cleveland, Ohio 44115

a. GETTING THE RIGHT JOB (XV Locating and Applying for a Job)

97. High School News Service
Director
Building 1-B
Great Lakes, Illinois 60088

a. BASIC FACTS ABOUT MILITARY SERVICE (VII Service)

98. Illinois Department of Conservation
400 S. Spring Street
Springfield, Illinois 62706

a. CAREERS IN WILDLIFE CONSERVATION (XII Science)

99. Industrial Designer's Society of America
60 West 55th Street
New York, New York 10019

a. CAREERS IN INDUSTRIAL DESIGN (XIV Arts & Entertainment)

100. Institute of Life Insurance, The
277 Park Avenue
New York, New York 10017

a. CAREERS IN PROPERTY LIABILITY INSURANCE (VIII Business Contact)

b. IT'S UP TO YOU — A GUIDE TO A CAREER IN LIFE AND HEALTH INSURANCE (VIII Business Contact)

c. LIFE CAREER, A (VIII Business Contact)

d. WHAT WILL YOU BE DOING SEVEN YEARS FROM NOW? (VIII Business Contact)

101. Institute of Traffic Engineers
2029 K Street, N.W.
Washington, D.C. 20006

a. CAREER IN TRAFFIC ENGINEERING, A (X Technology)

102. International Association of Fire Chiefs
232 Madison Avenue
New York, New York 10016

a. HIGH SCHOOL GRADUATES CONSIDER — FIREFIGHTING (VII Service)

103. International Association of Firefighters
905 16th Street
Washington, D.C. 20006

a. TODAY'S FIRE FIGHTER — IS A PROFESSIONAL (VII Service)

104. International Brotherhood of Bookbinders
1612 K Street N.W.
Washington, D.C. 20006

a. APPRENTICESHIP TECHNICAL INFORMATION (III Understanding the Present World of Work)

105. International Brotherhood of Electrical Workers
1200 15th Street, N.W.
Washington, D.C. 20005

a. ELECTRICAL WORKER'S STORY, THE (X Technology)

106. International Oceanographic Foundation
Room 113
10 Rickenbacker Causeway, Virginia Key
Miami, Florida 33149

a. TRAINING AND CAREERS IN MARINE SCIENCE (XII Science)

107. Manufacturing Chemist's Association
1825 Connecticut Avenue, N.W.
Washington, D.C. 20009

a. BRIGHT FUTURE AS A CHEMICAL TECHNICIAN, A (XII Science)

b. CAREER AHEAD IN THE CHEMICAL INDUSTRY (XII Science)

108. Mathematical Sciences Employment Register
P.O. Box 6248
Providence, Rhode Island 02904

a. FINDING EMPLOYMENT IN THE MATHEMATICAL SCIENCES (XII Science)

109. Medical Library Association, Inc.
919 North Michigan Avenue
Chicago, Illinois 60611

a. MEDICAL LIBRARY CAREERS (XII Science)

110. Metallurgical Society
Attn: Miss Susan Orosz
345 East 47th Street
New York, New York 10017

a. CAREERS IN METALLURGY MATERIALS, SCIENCE, AND METALLURGIC ENGINEERING (X Technology)

111. Miami Seaquarium
Public Information Office
30 Rickenbacker Causeway
Miami, Florida 33149

a. SO YOU WANT TO BE A MARINE SCIENTIST? (XII Science)

112. Mississippi Employment Security Commission
P.O. Box 1699
Jackson, Mississippi 39205

Occupational Guides

a. AIRPLANE HOSTESS (VII Service)

b. AUTOMOBILE MECHANIC (X Technology)

c. BOOKKEEPER (IX Organization)

d. CASHIER (IX Organization)

e. CLERK, GENERAL OFFICE (IX Organization)

f. COOK (VII Service)

g. ELECTRICIAL-APPLIANCE REPAIRMAN (X Technology)

h. ELECTRICIAN (X Technology)

i. GAS-APPLIANCE SERVICEMAN (X Technology)

j. HOUSEHOLD-APPLIANCE REPAIRMAN (X Technology)

k. KEY-PUNCH OPERATOR (IX Organization)

l. NURSE AID (VII Service)

m. NURSE, GENERAL DUTY (XII Science)

n. NURSE, LICENSED PRACTICAL (VII Service)

o. OUTBOARD MOTOR MECHANIC (X Technology)

p. RECEPTIONIST (IX Organization)

q. SALES CLERK (IX Organization)

r. SALESMAN, GENERAL (VIII Business Contact)

s. SALESPERSON, GENERAL (IX Organization)

t. STENOGRAPHER (IX Organization)

u. TELEVISION SERVICE & REPAIRMAN (X Technology)

v. WELDERS, FLAME CUTTERS, AND RELATED OCCUPATIONS (X Technology)

113. National Airlines, Inc.
Stewardess Employment
P.O. Box 2055, A.M.F.
Miami, Florida 33159

a. STEWARDESSES (VII Service)

114. National Association of Business Economists
Box 28038
Washington, D.C. 20005

a. BUSINESS ECONOMICS CAREERS (IX Organization)

115. National Association of Photo-Lithographers
230 West 41st Street
New York, New York 10036

a. CHOOSE YOUR CAREER IN A GROWTH INDUSTRY (X Technology)

116. National Association of Plumbing, Heating, and
Cooling Contractors
1016 20th Street, N.W.
Washington, D.C. 20036

a. YOUR FUTURE IN PLUMBING, HEATING, AND COOLING (X Technology)

117. National Association of Professional
Baseball Leagues
720 East Broad Street
Columbus, Ohio 43215

a. BASEBALL, THE GAME, THE CAREER, THE OPPORTUNITY (XIV Arts & Entertainment)

118. National Association of Retail Druggists
One East Wacker Drive
Chicago, Illinois 60601

a. THERE IS A FUTURE FOR YOU IN PHARMACY (XII Science)

119. National Association for Music Therapy, Inc.
P.O. Box 610
Lawrence, Kansas 66044

a. MUSIC THERAPY AS A CAREER (VII Service)

120. National Automobile Dealer's Association
200 K Street, N.W.
Washington, D.C. 20006

a. YOUR CAREER IN THE RETAIL AUTOMOBILE INDUSTRY (IX Organization)

121. National Cartoonist Society
Joseph W. Musial
152 Colonial Parkway
Manhasset, Long Island, New York 11030

a. COMIC ART (XIV Arts & Entertainment)

122. National Coal Association
Education Division
1130 17th Street, N.W.
Washington, D.C. 20036

a. ENGINEERING CAREERS IN THE COAL INDUSTRY (X Technology)

123. National Consumer Finance Association
Larry R. Fink
Director of Educational Relations
1000 16th Street, N.W.
Washington, D.C. 20036

a. YOUR FUTURE — CAREERS IN CONSUMER FINANCE (IX Organization)

124. National Council on Crime and Deliquency Library
44 East 23rd Street
New York, New York 10010

a. CAREERS IN THE CRIMINAL JUSTICE SYSTEM (VII Service)

125. National Council of Teachers of Mathematics
1201 16th Street, N.W.
Washington, D.C. 20036

a. MATHEMATICS TEACHING AS A CAREER (XIII General Cultural)

126. National Federation of Licensed Practical Nurses, Inc.
250 West 57th Street, Suite 1511
New York, New York 10019

a. PRACTICALLY SPEAKING FOR A NURSING CAREER (XII Science)

127. National Forest Products Association
1619 Massachusetts Avenue, N.W.
Washington, D.C. 20036

a. CHALLENGE OF THE FOREST, THE (XI Outdoor)

b. OPPORTUNITIES UNLIMITED FOR CAREERS OF PRESTIGE AND PROFIT IN THE FOREST PRODUCTS INDUSTRIES (XI Outdoor)

128. National Future Farmer, The
P.O. Box 15130
Alexandria, Virginia 22309

a. AGRI OPPORTUNITIES (XI Outdoor)

129. National Landscape Association
832 Southern Building
Washington, D.C. 20005

a. DEVELOP A CAREER AS A PROFESSIONAL LANDSCAPE EXPERT (XI Outdoor)

130. National League for Nursing
10 Columbus Circle
New York, New York 10019

a. DO YOU WANT TO BE A NURSE? (XII Science)

131. National Oceanography Association
1900 L Street, N.W.
Washington, D.C. 20036

a. BECOMING AN OCEANOGRAPHER (XII Science)

b. CAREER INFORMATION SHEET (XII Science)

c. OCEANOGRAPHY CURRICULA (XII Science)

132. National Rehabilitation Counseling Association
1522 K Street, N.W.
Washington, D.C. 20005

a. HOW WILL YOU CHOOSE TO HELP OTHERS? (VII Service)

b. UP AGAINST THE WALL (VII Service)

133. National Restaurant Association
Director of Education
1530 Lake Shore Drive
Chicago, Illinois 60610

a. COUNSELOR KIT — FOOD SERVICE INDUSTRY (VII Service)

134. National Shorthand Reporters Association
25 West Main Street
Madison, Wisconsin 53703

a. SHORTHAND REPORTING AS A CAREER (IX Organization)

135. National Tire Dealer's and Retreader's Association, The
1343 L Street
Washington, D.C. 20005

a. GET ROLLING (X Technology)

136. New York Life Insurance Company
Box 51, Madison Square Station
New York, New York 10010

a. SHOULD YOU BE AN ACCOUNTANT? (IX Organization)

b. SHOULD YOU BE AN ACTUARY? (IX Organization)

c. SHOULD YOU BE AN AERONAUTICAL ENGINEER? (X Technology)

d. SHOULD YOU BE AN ARCHITECT? (XIV Arts & Entertainment)

e. SHOULD YOU BE A BANKER? (IX Organization)

f. SHOULD YOU BE A BIOLOGIST? (XII Science)

g. SHOULD YOU BE A CHEMIST? (XII Science)

h. SHOULD YOU BE A CITY OR REGIONAL PLANNER? (XIII General Cultural)

i. SHOULD YOU BE A DENTIST? (XII Science)

j. SHOULD YOU BE A DIETITIAN? (XII Science)

k. SHOULD YOU BE A DRAFTSMAN? (X Technology)

l. SHOULD YOU BE A DOCTOR? (XII Science)

m. SHOULD YOU BE AN ELECTRONIC ENGINEER? (X Technology)

n. SHOULD YOU BE AN ENGINEER? (X Technology)

o. SHOULD YOU BE A FORESTER? (XI Outdoor)

p. SHOULD YOU BE A HOME ECONOMIST? (XII Science)

q. SHOULD YOU BE A HOSPITAL ADMINISTRATOR? (IX Organization)

r. SHOULD YOU BE A LAWYER? (XIII General Cultural)

s. SHOULD YOU BE A LIBRARIAN? (XIII General Cultural)

t. SHOULD YOU BE A MANUFACTURING ENGINEER? (X Technology)

u. SHOULD YOU BE A MATHEMATICIAN? (XII Science)

v. SHOULD YOU BE A MEDICAL TECHNOLOGIST? (XII Science)

w. SHOULD YOU BE A NUCLEAR SCIENTIST? (X Technology)

x. SHOULD YOU BE A NEWS REPORTER? (XII Science)

y. SHOULD YOU BE A NURSE? (XII Science)

z.	SHOULD YOU BE A PATHOLOGIST?	(XII Science)
a^2.	SHOULD YOU BE A PHARMACIST?	(XII Science)
b^2.	SHOULD YOU BE A PHYSICIST?	(XII Science)
c^2.	SHOULD YOU BE A PURCHASING AGENT?	(IX Organization)
d^2.	SHOULD YOU BE A SALESMAN?	(VIII Business Contact)
e^2.	SHOULD YOU BE A SCIENTIST?	(XII Science)
f^2.	SHOULD YOU BE A SECRETARY?	(IX Organization)
g^2.	SHOULD YOU BE A SPACE SCIENTIST?	(X Technology)
h^2.	SHOULD YOU BE A SOCIAL WORKER?	(VII Service)
i^2.	SHOULD YOU BE A TEACHER?	(XIII General Cultural)
j^2.	SHOULD YOU BE A VETERINARIAN?	(XII Science)
k^2.	SHOULD YOU ENTER THE CLERGY?	(XIII General Cultural)
l^2.	SHOULD YOU GO INTO ADVERTISING?	(IX Organization)
m^2.	SHOULD YOU GO INTO AGRICULTURE?	(XI Outdoor)
n^2.	SHOULD YOU GO INTO BUSINESS FOR YOURSELF?	(III Understanding the Present World of Work)
o^2.	SHOULD YOU GO INTO COMPUTER PROGRAMMING?	(X Technology)
p^2.	SHOULD YOU GO INTO THE CONSTRUCTION BUSINESS?	(X Technology)
q^2.	SHOULD YOU GO INTO COUNSELING?	(VII Service)
r^2.	SHOULD YOU GO INTO FOOD RETAILING?	(IX Organization)
s^2.	SHOULD YOU GO INTO THE FOREIGN SERVICE?	(IX Organization)
t^2.	SHOULD YOU GO INTO LAW ENFORCEMENT?	(VII Service)
u^2.	SHOULD YOU GO INTO THE MINERAL INDUSTRY?	(X Technology)
v^2.	SHOULD YOU GO INTO PERSONNEL WORK?	(IX Organization)
w^2.	SHOULD YOU GO INTO PUBLIC RELATIONS?	(VIII Business Contact)

x^2. SHOULD YOU GO INTO THE PRINTING INDUSTRY? (X Technology)

y^2. SHOULD YOU GO INTO THE REHABILITATION SERVICES? (VII Service)

z^2. SHOULD YOU GO INTO RETAILING? (IX Organization)

a^3. SHOULD YOU MAKE A CAREER IN THE ARMED FORCES? (VII Service)

b^3. SHOULD YOU SEEK A CAREER IN LIFE INSURANCE? (VIII Business Contact)

c^3. SHOULD YOU SEEK A CAREER IN YOUTH SERVICES? (VII Service)

137. Newspaper Fund, Inc.
Dept. D-L
P.O. Box 300
Princeton, New Jersey 08540

a. INFORMATION ON THE ROAD TO A CAREER IN JOURNALISM (XIII General Cultural)

138. Optical Society of America
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037

a. YOUR CAREER IN OPTICS (XII Science)

139. Pennsylvania Bureau of Employment Security
Labor and Industry Building
7th and Forester Street
Harrisburg, Pennsylvania 17121

Job Opportunity Guides

a. AUTOMOBILE SERVICE WORK (X Technology)

b. BEAUTY OPERATOR (VII Service)

c. CLERK TYPIST (IX Organization)

d. FOOD SERVICE OCCUPATIONS (VII Service)

e. HEALTH CAREERS (XII Science)

f. LICENSED PRACTICAL NURSE (VII Service)

g. PAINTER IN THE BUILDING AND DECORATING TRADES (X Technology)

h. PROTECTIVE SERVICE OCCUPATIONS (VII Service)

i. SALES WORK (IX Organization)

j. SELECTED OCCUPATIONS IN NURSERY AND TURFGRASS INDUSTRIES (XI Outdoor)

k. SEWING MACHINE OPERATOR (X Technology)

l. STENOGRAPHER AND SECRETARY (IX Organization)

140. Pfizer Inc.
Educational Services Dept.
235 East 42nd Street
New York, New York 10017

a. YOUR CAREER OPPORTUNITIES IN HOSPITALS (XII Science)

b. YOUR CAREER OPPORTUNITIES IN MEDICINE (XII Science)

c. YOUR CAREER OPPORTUNITIES IN PHARMACY (XII Science)

141. Philadelphia College of Art
Office of Public Information
Broad and Pine Streets
Philadelphia, Pennsylvania 19102

a. YOUR CAREER IN ART (XIV Arts & Entertainment)

142. Professional Photographers of America, Inc.
1090 Executive Way, Oak Leaf Commons
De Plaines, Illinois 60018

a. FOCUS ON YOUR FUTURE (XIV Arts & Entertainment)

143. Prudential Insurance Company of America
Box 36
Newark, New Jersey 07101

a. FACING FACTS ABOUT CHOOSING YOUR LIFE'S WORK (VI Selecting a Career)

b. FACING FACTS ABOUT THE TWO-YEAR COLLEGE (V Preparing for a Career)

c. FACING FACTS ABOUT YOUR COLLEGE CAREER (V Preparing for a Career)

144. Public Relations Society of America, Inc.
845 3rd Avenue
New York, New York 10022

- a. OCCUPATIONAL GUIDE TO PUBLIC RELATIONS, AN (VIII Business Contact)

145. Retail Jewelers of America, Inc.
1025 Vermont Avenue, N.W.
Washington, D.C. 20005

- a. GOLDEN TOUCH, THE (VIII Business Contact)

146. Rochester Institute of Technology
Public Relations Dept.
One Lomb Memorial Drive
Rochester, New York 14623

- a. CAREERS IN BUSINESS (IX Organization)
- b. CAREERS IN PRINTING (IX Organization)
- c. CAREERS IN RETAILING (IX Organization)

147. RTNDA
c/o WKAR
Michigan State University
East Lansing, Michigan 48823

- a. BROADCAST NEWS CAREERS (XIII General Cultural)

148. Sales and Marketing Executives — International
630 3rd Avenue
New York, New York 10017

- a. SALESMAN, THE (VIII Business Contact)
- b. YOUR FARM BACKGROUND AND AGRI-BUSINESS SELLING (VIII Business Contact)

149. Sigma Delta Chi
Professional Journalistic Society
35 East Wacker Drive
Chicago, Illinois 60601

- a. BIG STORY, THE (XIII General Cultural)
- b. MIKE AND CAMERA (XIII General Cultural)

150. Society of Exploration Geophysicists
P.O. Box 3098
Tulsa, Oklahoma 74101

a. CAREERS IN EXPLORATION GEOPHYSICS (XII Science)

151. Society of Manufacturing Engineers
Education Dept.
20501 Ford Road
Dearborn, Michigan 48128

a. SHOULD YOU BE A MANUFACTURING ENGINEER? (X Technology)

152. Society of Mining Engineers of AIME
345 East 47th Street
New York, New York 10017

a. PENETRATING NEW FRONTIERS WITH MINERALS (X Technology)

153. Society of Petroleum Engineers of AIME
6200 North Central Expressway
Dallas, Texas 75206

a. CAREERS IN PETROLEUM ENGINEERING (X Technology)

154. Society of Technical Writers and Publishers, Inc.
1010 Vermont Avenue, N.W.
Suite 421
Washington, D.C. 20005

a. TECHNICAL WRITING AS A CAREER (X Technology)

155. Soil Conservation Society of America
7515 N.E. Ankeny Road
Ankeny, Iowa 50021

a. CAREERS IN CONSERVATION (XII Science)

156. Structural Clay Products Institute
Mason Relations Department
Mr. William Roark
1750 Old Meadow Road
McLean, Virginia 22101

a. BRICKLAYING AS A VOCATION (X Technology)

157. Trans World Airlines
Manager, Flight Crew Employment
10 Richards Road
Municipal Airport
Kansas City, Missouri 64108

a. BE A WOMAN OF THE WORLD (VII Service)

158. United Brotherhood of Carpenters and Joiners of America
101 Constitution Avenue, N.W.
Washington, D.C. 20001

a. TOP HAND IN THE BUILDING TRADES (X Technology)

159. United Business School Association
1730 M Street, N.W.
Washington, D.C. 20036

a. ACCOUNTING FOR YOUR FUTURE (IX Organization)

b. DON'T OVERLOOK THE BUSINESS COLLEGE (V Preparing for a Career)

c. OVERSEAS SECRETARY (IX Organization)

d. WHAT IT TAKES TO BE A SECRETARY (IX Organization)

e. YOUR CAREER AS A LEGAL SECRETARY (IX Organization)

f. YOUR CAREER AS A MEDICAL SECRETARY (IX Organization)

g. YOUR CAREER AS A SECRETARY (IX Organization)

160. Upjohn Company, The
Department #9250
Kalamazoo, Michigan 49001

a. WHAT IS A PHARMACIST? (XII Science)

161. U.S. Atomic Energy Commission
P.O. Box 62
Oak Ridge, Tennessee 37830

a. CAREERS IN ATOMIC ENERGY (XII Science)

b. CREATIVE SCIENTIST, THE: HIS TRAINING AND HIS ROLE (XII Science)

162. U.S. Air Force Recruiting Service, Commander
Attn: Director of Advertising and Publicity
Randolph AFB, Texas 78148

a. QUESTIONS AND ANSWERS ABOUT THE AIR FORCE (VII Service)

b. UNITED STATES AIR FORCE BROCHURE, THE (VII Service)

c. WOMEN OFFICERS IN THE AIR FORCE (VII Service)

163. U.S. Air Force Academy
Director of Admissions
USAF Academy, Colorado 80840

a. GATEWAY TO AEROSPACE (VII Service)

164. U.S. Army Recruiting Command
Commanding General
Attn: Director, Advertising and Information
Hampton, Virginia 23369

a. SECRET OF GETTING AHEAD, THE (VII Service)

b. WOULDN'T IT BE THE SMART THING FOR YOU TO STAY IN SCHOOL? (VII Service)

165. U.S. Civil Service Commission
Washington, D.C. 20415

a. WORKING FOR THE U.S.A. (IX Organization)

166. U.S. Department of Agriculture
Branch of Recruitment and Qualifications
Division of Personnel Management
Forest Service
Washington, D.C. 20250

a. CHALLENGE IN WOOD RESEARCH (XI Outdoor)

b. JOB WITH THE FOREST SERVICE, A (XI Outdoor)

167. U.S. Department of Labor
Bureau of Labor Statistics
1371 Peachtree Street, N.W.
Atlanta, Georgia 30309

a. JOBS FOR WHICH APPRENTICESHIP TRAINING IS AVAILABLE (III Understanding the Present World of Work)

b. JOBS FOR WHICH A COLLEGE EDUCATION IS USUALLY REQUIRED (V Preparing for a Career)

c. JOBS FOR WHICH A HIGH SCHOOL EDUCATION IS GENERALLY REQUIRED (V Preparing for a Career)

d. JOBS FOR WHICH JUNIOR COLLEGE, TECHNICAL INSTITUTE, OR OTHER SPECIALIZED TRAINING IS USUALLY REQUIRED (V Preparing for a Career)

e. CLERICAL AND RELATED OCCUPATIONS (IX Organization)

f. HEALTH SERVICE OCCUPATIONS (XII Science)

g. MANAGERIAL OCCUPATIONS (IX Organization)

h. PROFESSIONAL OCCUPATIONS (IX Organication)

i. SALES OCCUPATIONS (VIII Business Contact)

j. SKILLED AND OTHER MANUAL OCCUPATIONS (X Technology)

k. BIOLOGY AND YOUR CAREER (V Preparing for a Career)

l. ENGLISH AND YOUR CAREER (V Preparing for a Career)

m. FOREIGN LANGUAGES AND YOUR CAREER (V Preparing for a Career)

n. MATHEMATICS AND YOUR CAREER (V Preparing for a Career)

o. SCIENCE AND YOUR CAREER (V Preparing for a Career)

p. SOCIAL SCIENCE AND YOUR CAREER (V Preparing for a Career)

q. THINKING OF AN OFFICE JOB (IX Organization)

168. U.S. Department of Labor
Manpower Administration
14th and Constitution Avenue
Room 2203
Washington, D.C. 20210

a. CHOOSING YOUR OCCUPATION (VI Selecting a Career)

169. U.S. Department of Labor
Women's Bureau
Washington, D.C. 20210

a. JOB TRAINING SUGGESTIONS FOR WOMEN AND GIRLS (V Preparing for a Career)

b.	WHY NOT BE AN APPRENTICE?	(III Understanding the Present World of Work)
c.	WHY NOT BE AN ENGINEER?	(X Technology)
d.	WHY NOT BE A MATHEMATICIAN?	(XII Science)
e.	WHY NOT BE A MEDICAL TECHNOLOGIST?	(XII Science)
f.	WHY NOT BE AN OPTOMETRIST?	(XII Science)
g.	WHY NOT BE A PERSONNEL SPECIALIST?	(IX Organization)
h.	WHY NOT BE A PHARMACIST?	(XII Science)
i.	WHY NOT BE A PUBLIC RELATIONS WORKER?	(VIII Business Contact)
j.	WHY NOT BE A TECHNICAL WRITER?	(X Technology)
k.	WHY NOT BE AN URBAN PLANNER?	(XIII General Cultural)

170. U.S. Department of the Interior
Geological Survey
Information Office
Washington, D.C. 20242

a.	ASTROGEOLOGY	(XII Science)
b.	ENGINEERING GEOLOGY	(XII Science)
c.	MARINE GEOLOGY	(XII Science)
d.	PROSPECTING FOR GOLD IN THE UNITED STATES	(XI Outdoor)

171. U.S. Geological Survey
The Paleontological Society
W.O. Addicott, Secretary
345 Middlefield Road
Menlo Park, California 94025

a.	PALEONTOLOGIST, THE	(XII Science)

172. U.S. Independent Telephone Association
438 Pennsylvania Building
Washington, D.C. 20004

a.	YOUR CAREER IN INDEPENDENT COMMUNICATIONS	(IX Organization)

173. U.S. Marine Corps, Headquarters
Commandant of the Marine Corps
Washington, D.C. 20380

a. MARINE NAVMC 7070 (VII Service)

b. OFFICER OF MARINES NAVMC 7113 (VII Service)

c. WOMEN MARINE NAVMC 7038 (VII Service)

d. WOMAN MARINE OFFICERS NAVMC 7037 (VII Service)

174. Veterans Administration
Personnel (054)
Washington, D.C. 20420

a. REHABILITATION THERAPISTS IN THE VETERANS ADMINISTRATION (VII Service)

175. Wolverine World Wide, Inc.
Advertising Department
9341 Courtland Drive
Rockford, Michigan 49341

a. LET'S LOOK AT LEATHER (X Technology)

176. Writer's Digest
Department EPS
22 East 12th Street
Cincinnati, Ohio 45210

a. JOBS AND OPPORTUNITIES FOR WRITERS (XIV Arts & Entertainment)

Free Films

In addition to the films which may be secured from the sources listed in this section, free films are also available from:

Curriculum Coordinating Unit
Vocational-Technical Education
Motion Picture Library
P.O. Drawer DX
Mississippi State, Mississippi 39762

If your school has not received a FILM CATALOG, you may want to request one.

177. American Dental Association
211 East Chicago Avenue
Chicago, Illinois 60611

a. BRIGHT FUTURE (XII Science)
Color, 28 min.

b. CHALLENGE OF DENTISTRY, THE (XII Science)
Color, 28 min.

c. LABORATORY OF THE BODY (XII Science)
Color, 28 min.

d. PATTERN OF A PROFESSION (XII Science)
Black and White, 28 min.

178. American Osteopathic Association
Order Department
212 East Ohio Street
Chicago, Illinois 60611

a. AMERICAN DOCTOR (XII Science)
Color, 28 min.

b. YOU BE THE DOCTOR (XII Science)
Color, 16 min.

179. American Podiatry Association
Audiovisual Section
20 Chevy Chase Circle
Washington, D.C. 20015

a. PODIATRY: OPPORTUNITY AND CHALLENGE (XII Science)
Color, 13 min.

b. WINGED FOOT, THE (XII Science)
Black and White, 13 min.

180. Armstrong Cork Company
Mr. Clyde O. Hess, Manager
Press Relations
Public Relations Department
Liberty and Charlotte Streets
Lancaster, Pennsylvania 17604

a. FLOORING CRAFTSMAN, THE (X Technology)
Color, 15. min.

181. Association-Sterling Films
5797 New Peachtree Road
Atlanta, Georgia 30340

a. BREAKING THE SOUND BARRIER S 096 (VII Service)
Color, 28 min.

b. DID YOU HEAR WHAT I SAID? S 133 (XIII General Cultural)
Black and White, 33 min.

c. GOOD HAND — GOOD EYE 2400 (X Technology)
Color, 17 min.

d. MEN OF ACCOUNT S 373 (IX Organization)
Color, 27 min.

e. SHEEPMAN U. S. A. 2465 (XI Outdoor)
Color, 28 min.

f. TAKE ANOTHER LOOK S 540 (IX Organization)
Color, 28 min.

182. Bassist Fashion Institute
923 Southwest Taylor Street
Portland, Oregon 97205

a. FASHION: THE CAREER OF CHALLENGE (XIV Arts and Entertainment)
Color, 12 min.

183. Becton, Dickinson Company
Attention: Mr. Frank N. Selmer
Manager, Advertising and Sales Promotion
Rutherford, New Jersey 07070

a. CAREER IN BACTERIOLOGY (XII Science)
Color, 20 min.

184. Bell Telephone Officers
Contact your local Bell System Telephone business office.

a. OPERATOR (IX Organization)
Color, 14 min.

185. Brown Shoe Company
Public Relations
8300 Maryland Avenue
Clayton, Missouri 63105

a. LEATHER IN THE MAKING (X Technology)
Black and White, 30 min.

186. Department of the Air Force
USAF Central Audio-Visual Library
AF Audio-Visual Center
Norton AFB, California 92409

a. AIRFORCE NURSE, THE SFP 1241 (VII Service)
Color, 16 min.

b. AIR FORCE'S FLYING HOSPITALS SFP 1350 (VII Service)
Color, 14 min.

c. NEW APPROACH, THE SFP 1230 (VII Service)
Color, 14 min.

187. Department of the Army
Third United States Army
Attention: Audio-Visual Support Center
Fort McPherson, Georgia 30330

a. ARMY CHAPLAIN, THE — YESTERDAY AND TODAY TV538
Black and White, 28 min (VII Service)

b. ARMY NURSE — SOLDIER OF MERCY TV 667 (VII Service)
Black and White, 28 min.

c. CALL ME MISTER TV 759 (VII Service)
Color, 28 min.

d. CHAPLAIN AND THE COMMANDER, THE TV 532 (VII Service)
Black and White, 28 min.

e. CHOPPER PILOT TV 694 (VII Service)
Color, 28 min.

f. COMBAT INFANTRY SOLDIER TV 774 (VII Service)
Color, 28 min.

g. ENGINEERING FOR TOMORROW TV 781 (VII Service)
Color, 28 min.

h. FEMININE TOUCH, THE TV 780 (VII Service)
Color, 28 min.

i. SOMETHING TO BUILD ON TV 688 (VII Service)
Color, 28 min.

188. Department of the Navy
Sixth Naval District
U.S. Naval Base
Charleston, South Carolina 29403

a. ADVENTURES IN INNER SPACE MN 9680 (VII Service)
Color, 28 min.

b. CAREERS IN OCEANOGRAPHY MN 10063 (VII Service)
Color, 28 min.

c. MOMENT IN TIME, A MN 10367 (VII Service)
Color, 28 min.

d. NAVY FROGMEN MN 8238 (VII Service)
Black and White, 28 min.

e. OCEANOGRAPHER IN POLAR REGIONS MN 10301 (VII Service)
Color, 29 min.

189. Du Pont de Nemours and Company, Incorporated
Motion Picture Section
Advertising Department
1007 Market Street
Wilmington, Delaware 19898

a. LIGHT IN SHADOWS: THE STORY OF X-RAY (XII Science)
Color, 21 min.

b. WE USED TO CALL IT PRINTING (X Technology)
Color, 27 min.

190. Electronic Industries Association
Consumer Products Division
2001 Eye Street, N.W.
Washington, D.C. 20006

a. ELECTRONIC SERVICE TECHNICIAN, THE — FUTURES UNLIMITED
Color, 14 min. (X Technology)

191. Federal Aviation Administration
FAA Film Library AC 921
P.O. Box 25082
Oklahoma City, Oklahoma 73125

a. AVIATION WORKSHOP FA 605 (X Technology)
Color, 29 min.

192. Ford Motor Company
Film Library
The American Road
Dearborn, Michigan 48121

a. AUTO MECHANIC AND TECHNICIAN (X Technology)
Color, 23 min.

193. General Mills, Inc.
Film Center
9200 Wayzata Boulevard
Minneapolis, Minnesota 55440

a. JACKSON'S TREE (X Technology)
Color, 15 min.

b. PACESETTER IN AISLE NO. 3, THE (IX Organization)
Color, 15 min.

194. Huntington Laboratories, Inc.
Huntington, Indiana 46750

a. IT'S YOUR CHALLENGE (VII Service)
Color, 23 min.

195. Keystone Steel and Wire
Audio-Visual Department
Peoria, Illinois 61607

a. FOUR STAR FARMERS OF 1958 (XI Outdoor)
Color, 18 min.

b. FOUR STAR FARMERS OF 1959 (XI Outdoor)
Color, 22 min.

c. FOUR STAR FARMERS OF 1960 (XI Outdoor)
Color, 22 min.

d. FOUR STAR FARMERS OF 1961 (XI Outdoor)
Color, 25 min.

e. FOUR STAR FARMERS OF 1962 (XI Outdoor)
Color, 25 min.

f. FOUR STAR FARMERS OF 1963 (XI Outdoor)
Color, 25 min.

g. FOUR STAR FARMERS OF 1964 (XI Outdoor)
Color, 28 min.

h. FOUR STAR FARMERS OF 1965 (XI Outdoor)
Color, 23 min.

i. FOUR STAR FARMERS OF 1966 (XI Outdoor)
Color, 24 min.

j. FOUR STAR FARMERS OF 1967 (XI Outdoor)
Color, 27 min.

196. Lilly and Company, Eli
Miss A. I. Proctor
Audio Visual Film Library
P.O. Box 618
Indianapolis, Indiana 46206

a. DAY OF JUDGMENT — PHARMACY RECRUITMENT (XII Science)
Color, 24 min.

b. WITHOUT WARNING (XII Science)
Color, 16 min.

197. Maine Department of Agriculture
Mr. Kenneth E. Gray, Chief
Motion Picture Services
State House
Augusta, Maine 04330

a. PART-TIME FARMER (XI Outdoor)
Color, 17 min.

198. Marine Corps
Sixth Marine Corps District
Attention: Director
275 Peachtree Street
Atlanta, Georgia 30303

a. BACKBONE OF THE CORPS MH 8754 (VII Service)
Black and White, 23 min.

b. BEGINNING, THE MH 10863 (VII Service)
Color, 18 min.

c. BRIGHT FUTURE MH 9438 (VII Service)
Black and White, 14 min.

d. CHALLENGE, THE MH 8598 (VII Service)
Black and White, 28 min.

e. ENGINEERS UP MH 19278K (VII Service)
Black and White, 13 min.

f. MODERN MARINE MH 10384 (VII Service)
Color, 15 min.

199. McDonnell Douglas Corporation
Film Library — Department 92
Room 167, Building 2
P.O. Box 516
St. Louis, Missouri 63166

a. EXCELLENCE — BY DESIGN (X Technology)
Color, 15 min.

200. Merck Sharp and Dohme Film Library
West Point, Pennsylvania 19486

a. WIDER WORLD, A (XII Science)
Black and White, 28 min.

b. WITHIN THESE WALLS (XII Science)
Black and White, 28 min.

201. Modern Talking Picture Service
714 Spring Street, N.W.
Atlanta, Georgia 30308

a. AT THE CENTER 3947 (XIII General Cultural)
Color, 28 min.

b. AUTO MECHANIC: "IT'S FOR YOU" 3841 (X Technology)
Color, 15 min.

c. CAREER GAME, THE (XII Science)
Color, 14 min.

d. CREATIVE WORLD OF INTERIOR DESIGN 3184
Color, 15 min. (XIV Arts & Entertainment)

e. CREDIT 2930 (IX Organization)
Color, 14 min.

f. DIALOGUE WITH A YOUNG MAN 3694 (VIII Business Contact)
Color, 14 min.

g. HORIZONS UNLIMITED 3033 (XII Science)
Color, 28 min.

h. MATTER OF OPPORTUNITY, A 3882 (XII Science)
Color, 27 min.

i. NOBLE BREED, THE 3600 (VII Service)
Black and White, 28 min.

j. SEARCH FOR MEANING 3291 (XII Science)
Black and White, 5 min.

k. THAT THE PEOPLE SHALL KNOW 2870 (XIII General Cultural)
Black and White, 21 min.

l. WHAT'S SO SPECIAL ABOUT PAPER? (X Technology)
Color, 28 min.

202. National Aeronautics and Space Administration
George C. Marshall Space Flight Center
Public Affairs Office
Huntsville, Alabama 35812

a. ASTRONAUT TRAINING AD 4 (X Technology)
Color, 7 min.

b. POETRY OF POLYMERS HQ 143 (XII Science)
Color, 19 min.

c. UNIVERSE ON A SCRATCH PAD HQ 164 (XII Science)
Black and White, 28 min.

203. National Association of Engine and Boat Manufacturers
Film Library
Department of Creativision, Incorporated
295 West 4th Street
New York, New York 10014

a. BOATS NEED PEOPLE (XIV Arts and Entertainment)
Color, 13 min.

204. National Canners Association
Miss Gloria Hansen
Communications Services
1133 20th Street, N.W.
Washington, D.C. 20036

a. STORY OF JOHN PORTER (XII Science)
Color, 25 min.

205. National Career Center
Dept. FF.
3839 White Plains Road
Bronx, New York 10467

a. CAREERS IN BUSINESS (IX Organization)
Color, 12 min.

b. CAREERS IN COSMETOLOGY (VII Service)
Color, 13 min.

c. MEN'S HAIRSTYLING AS YOUR CAREER (VII Service)
Color, 14 min.

206. National Committee for Careers in Medical Technology
9650 Rockville Pike
Bethesada, Maryland 20014

a. HUMAN CELL AND THE CYTOTECHNOLOGIST (XII Science)
Color, 22 min.

b. IN A MEDICAL LABORATORY (XII Science)
Color, 28 min.

207. Swank Motion Pictures, Inc.
Attention: Sponsored Film Department
201 South Jefferson Avenue
St. Louis, Missouri 63166

a. WAY OF LIFE, A (XI Outdoor)
Color, 30 min.

208. Texaco, Inc.
Manager, Retail Sales
864 West Peachtree Street, Northwest
Atlanta, Georgia 30308

a. COUNTY AGENT (XII Science)
Color, 27 min.

b. VETERINARIAN, THE (XII Science)
Color, 26 min.

c. YOUR CAREER IN AGRICULTURE (XI Outdoor)
Color, 25 min.

209. Union Pacific Railroad
Motion Picture Bureau
1416 Dodge Street
Omaha, Nebraska 68102

a.	INSIDE TRACK, THE Color, 28 min.	(X Technology)
b.	NEW HORIZONS ALONG THE MILKY WAY Color, 26 min.	(XI Outdoor)

210. University of Southern California
School of Performing Arts
Division of Cinema
University Park
Los Angeles, California 90007

a.	UNIVERSITY IS A TEACHER, A Black and White, 30 min.	(XIII General Cultural)

211. U.S. Atomic Energy Commission
Oak Ridge Operations Office
P.O. Box E
Oak Ridge, Tennessee 37830

a.	ATOMS IN AGRICULTURE Color, 26 min.	(XII Science)
b.	GO FISSION Color, 14 min.	(X Technology)
c.	HORIZONS UNLIMITED Color, 37 min.	(X Technology)
d.	PREPARING FOR TOMORROW'S WORLD Color, 26 min.	(X Technology)

212. U.S. Civil Service Commission
240 Peachtree Street, N.E.
Atlanta, Georgia 30303

a.	LABOR OF LOVE Black and White, 22 min.	(IX Organization)

213. U.S. Coast Guard
Public Information Service
Washington, D.C. 20226

a.	ALWAYS READY Color, 12 min.	(VII Service)

214. U.S. Postal Service
Regional Director
Public Information Office
Memphis, Tennessee 38101

a. CITY LETTER CARRIER, THE (IX Organization)
Color, 14 min.

b. MAINSTAY OF THE MAIL (X Technology)
Color, 14 min.

c. VEHICLE MAINTENANCE STORY, THE (X Technology)
Color, 13 min.

215. Venard Organization
113 North East Madison Avenue
Peoria, Illinois 61602

a. FOUR STAR FARMERS OF 1968 (XI Outdoor)
Color, 25 min.

b. FOUR STAR FARMERS OF 1969 (XI Outdoor)
Color, 22 min.

Supplementary Books and Pamphlets:

216. Allyn and Bacon, Inc.
470 Atlantic Ave.
Boston, Mass. 02110

a. CAREER INFORMATION IN COUNSELING AND TEACHING 1971
Lee E. Isaacson
Cost: $9.95

This publication has sections on classifying occupations, preparing for work, occupational materials, and using occupational information.

217. Bruce Publishing Co.
2642 University Ave.
St. Paul, Minn. 55114

a. HOW TO CHOOSE YOUR WORK 1969
Elna Stone
Cost: $1.80

This publication is divided into three sections: What Do You Want to Do?; What Can You Do?; and Kinds of Work Available to You. Numerous rating scales and questionnaires designed to assist the student in self-exploration and consideration of available jobs are included.

218. Chronicle Guidance Publications, Inc.
Moravia, New York 13118

a. FINDING YOUR ORBIT 1971
E.G. Haldeman, et al.
Cost: $1.25

This booklet is designed to help students analyze their interests and abilities and make more realistic career choices. Numerous student activities which may be implemented in an occupational orientation class are given.

b. INTRODUCTION TO VOCATIONS 1967
H.E. Beam and J.R. Clary
Cost: $3.50

This publication was prepared for teachers of occupational orientation in North Carolina. Many helpful suggestions and activities which may be used by occupational orientation teachers are given.

c. GUIDE TO COLLEGE MAJORS
Cost: $4.50

This publication provides information concerning degrees granted for 2 to 5 years of study. College majors and the institutions offering degrees in each major are given.

d. MAJOR FIELDS OF STUDY
Cost: $4.50

This publication lists educational institutions in each state and the majors offered at each institution.

e. STUDENT AID MANUAL
Cost: $7.50

This publication contains an up-to-date listing of numerous sources of financial aid available to undergraduate and graduate students. Requirements and addresses are included.

219. Cowles Book Company, Inc.
488 Madison Avenue
New York, New York 10022

a. COWLES GUIDE TO CAREERS AND PROFESSIONS
Cost: $3.95

This publication gives information on sixty-two employment areas which require a college education. Information such as training required, employment outlook, earnings, and working conditions is included.

220. Dow Jones Books
Box 300
Princeton, New Jersey 08540

a. CAREERS FOR THE SEVENTIES 1969
Jerrold K. Footlick, ed.
Cost: $1.85

Descriptions of twenty occupations are presented in story form in this publication. These stories are not dull recitations of job facts, but give many interesting aspects of these occupations.

221. Educators Progress Service
Box 497
Randolph, Wisconsin 53956

a. EDUCATOR'S GUIDE TO FREE GUIDANCE MATERIALS
Mary H. Saterstrom and Joe A. Steph
Cost: $8.75

This publication, which is revised each year, classifies and provides ordering information for nearly 1,000 free materials, including films, filmstrips and slides, tapes, and printed material. Occupational orientation teachers should find this book very helpful.

222. Fearon Publishers
6 Davis Drive
Belmont, California 94002

a. GETTING A JOB 1966
Florence Randall
Cost: $2.50

This publication lists jobs in various areas which require a minimum of training and skill. Simple explanations concerning the necessary procedures in obtaining jobs are given. Chapters on getting ready for work, finding a job, getting a job interview, and filling out application forms are included.

b. PREPARING INSTRUCTIONAL OBJECTIVES 1962
Robert F. Mager
Cost: $2.00

This publication will be useful to any teacher who is interested in preparing behavioral objectives for his class.

223. Harper & Roe Publishers
49 E. 33rd Street
New York, New York 10016

a. VOCATIONAL AND PRACTICAL ARTS EDUCATION 1971
Roy W. Roberts
Cost: $10.95

This publication traces the history of vocational education and provides a comprehensive study of each of the major divisions of vocational education. This source will probably be of more value to teachers than to students.

224. Houghton Mifflin Co.
2 Park Street
Boston, Massachusetts 02107

a. FUNDAMENTALS OF GUIDANCE 1971
Edwin F. Shertzer and Shelley C. Stone, Sr.
Cost: $9.50

This publication gives a good overall view of the field of guidance. The sections dealing with group counseling, student appraisal, information services, career development, and career planning and placement services may be of interest to occupational orientation teachers.

225. The H. W. Wilson Co.
950 University Avenue
Bronx, New York 10452

a. OCCUPATIONAL LITERATURE, AN ANNOTATED BIBLIOGRAPHY 1971
Gertrude Forrester
Cost: $15.00

This publication, which has recently been revised, probably gives the most comprehensive coverage of occupational literature. Complete ordering information is given for publications relating to alphabetically listed occupations. Teachers will probably find this publication to be especially helpful.

226. J. G. Ferguson Publishing Co.
6 N. Michigan Avenue
Chicago, Illinois 60602

a. CONCISE HANDBOOK OF OCCUPATIONS 1971
Joan M. Costello and Rita Parsont Wolfson
Cost: $7.95

This publication includes one-page briefs for 305 occupations which are listed in alphabetical order. Each brief includes one photograph and a short description of the occupation. The briefs give only a general idea about specific occupations, and other sources must be consulted for more detailed information.

b. ENCYCLOPEDIA OF CAREERS AND VOCATIONAL GUIDANCE
VOLUME I & VOLUME II 1971
William E. Hopke
Cost: $26.95

Both volumes, which consist of over 1500 pages, give a great deal of informaation for the money. Volume I contains 5 articles which give ideas for guidance of students and 71 articles concerning opportunities in major industries such as medicine, advertising, and mining. Volume II contains 220 articles covering over 650 specific occupations. Each article contains much of the same information presented in occupational briefs. A primary disadvantage of bound volumes is the fact that they may be used by only one person at a time.

c. ON THE JOB 1970
Joseph L. Norton
Cost: $5.95

This publication consists of 65 actual work diaries giving first-person accounts of day-by-day experiences of workers in various jobs.

227. John Wiley & Sons
605 3rd Avenue
New York, New York 10016

a. THE PSYCHOLOGY OF OCCUPATIONS 1956
Ann Roe
Cost: $9.95

This publication explains the rationale used by Roe in developing her two-way classification system. A separate chapter is devoted to each of her eight major interest areas.

228. The Macmillan Company
866 3rd Avenue
New York, New York 10022

a. PERSONALIZING INFORMATION PROCESSES 1969
Joseph W. Hollis and Lucile U. Hollis
Cost: $9.95

This publication gives many excellent ideas concerning ways of relating occupational information to the individual student. Comprehensive coverage is given to a wide variety of sources and types of educational and occupational information. This book will be helpful to a teacher in locating additional sources of career information.

b. STATING BEHAVIORAL OBJECTIVES FOR CLASSROOM INSTRUCTION 1971
Norman E. Gronlund
Cost: $1.50

This publication will be useful to any teacher who is interested in preparing behavioral objectives for his class.

229. Management Information Center
Box 357
Miami, Florida 33145

a. HOW TO GET THE RIGHT JOB AND KEEP IT 1970
Frank S. Endicott
Cost: $2.75

This book is designed expecially for students who do not plan to attend college. Information is given on job prospects after high school and how to prepare for and obtain various jobs. Chapters on what to expect and how to succeed in a job are included. This publication contains a great number of suggested activities and situational questions which the teacher may use in class.

230. McGraw-Hill Book Co.
330 W. 42nd St.
New York, New York 10036

a. OCCUPATIONAL INFORMATION: WHERE TO GET IT AND HOW TO USE IT 1967
Robert Hoppock
Cost: $9.95

This publication is indeed a valuable tool for teachers of occupational orientation. Information concerning the sources of occupational literature, and classification and filing systems is included. The author has a special chapter on the teaching of occupations and explains in detail, activities which might be carried out in occupational orientation classes such as alumni follow-ups, group conferences, student surveys, case conferences, laboratory studies, and many others.

b. OCCUPATIONS AND CAREERS 1969
Norman Feingold and Sol Siverdloff
Cost: $7.96

This publication was designed for courses in occupational orientation and for use as a reference for counselors and students. The first part of the book takes a general approach to the world of work and career planning, while the second half discusses specific occupations by DOT classification. This book, which is almost a must, will be a valuable supplement to one's career library.

c. TECHNIQUES OF COUNSELING 1964
Jane Warters
Cost: $8.95

This publication gives a great deal of information concerning the use of various devices to gather information about students in a school setting. Various types of tests, inventories, rating scales, and autobiographies are among the many tools discussed in this book.

231. McKnight & McKnight Publishing Co.
U.S. Route 66 at Towanda Avenue
Bloomington, Illinois 61701

a. SUCCEEDING IN THE WORLD OF WORK 1970
Grady Kimbrell and Ben S. Vineyard
Cost: $7.95

This complete textbook is written by men who have had experience in the world of business and education. The authors have tried to bring together in one book the essentials every worker needs to understand in order to be succesful on his job. This book will make a valuable supplementary text for the teacher.

232. National Vocational Guidance Association
1605 New Hampshire Avenue, N.W.
Washington, D.C. 20009

a. THE TEACHER'S ROLE IN CAREER DEVELOPMENT 1965
Wesley W. Tennyson, Thomas A. Soldohl, and Charolotte Mueller
Cost: $1.90

This is an excellent publication which is definitely worth the small investment. The sections giving additional sources of occupational information and relating school subjects to careers are especially good. Practical suggestions are given on specific ways in which teachers can relate their subjects to various occupations.

233. Parker Publishing Co.
West Nyack, New York 10994

a. GUIDANCE IN ACTION: IDEAS AND INNOVATIONS FOR SCHOOL COUNSELORS 1970
Kenneth U. Gutsch and John D. Alcorn
Cost: $8.95

This publication was written by two prominent counselor-educators here in Mississippi. Portions of the book relating to educational and vocational information, group approaches, and placement should be especially meaningful to the occupational orientation teacher.

234. Prentice Hall, Inc.
Englewood Cliffs, New Jersey 07632

a. TEST SCORES AND WHAT THEY MEAN 1971
Howard B. Lyman
Cost: $6.95

This book does a good job of explaining different types of tests, norms, scores, profiles, and other information relating to tests in a relatively easy-to-understand manner.

235. Rand-McNally & Co.
Box 7600
Chicago, Illinois 60680

a. THE INFORMATION SERVICE IN GUIDANCE 1966
Willa Norris, Franklin R. Zeran, and Raymond N. Hatch
Cost: $10.50

This publication tells how to conduct community surveys, job analyses, and follow-up studies. Special activities which might be conducted in occupational orientation classes are also given.

236. Richards Rosen Press, Inc.
29 E. 21st Street
New York, New York 10010

Careers in Depth Series
Cost: $3.99 each

This series of nearly 100 career books gives extensive coverage to specific occupations. Students who want to explore an occupation more thoroughly may find these books helpful. Although these books may be too expensive to be used exclusively by occupational orientation classes, the school librarian may be interested in ordering them for the entire school.

a. YOUR FUTURE IN ADVERTISING
Jules B. Singer

b. YOUR FUTURE IN AEROSPACE TECHNOLOGY
Colonel L.D. Ely

c. YOUR FUTURE IN AGRICULTURE
Chester S. Hutchison

d. YOUR FUTURE IN THE AIR FORCE
Brigiadier General Monro MacCloskey

e. YOUR FUTURE AS AN AIRLINE STEWARDESS
Patricia Rudolph

f. YOUR FUTURE IN ARCHITECTURE
Richard Roth

g. YOUR FUTURE IN THE ARMY
General Harold Walmsley

h. YOUR FUTURE IN THE AUTOMOTIVE INDUSTRY
Dawson Taylor

i. YOUR FUTURE IN BANKING
Ralph E. Boynton

j. YOUR FUTURE IN THE BEAUTY BUSINESS
The Fashion Group

k. YOUR FUTURE IN BEAUTY CULTURE
Richard L. Gelb

l. YOUR CALLING AS A BROTHER
Brother Edward L. Cashin

m. YOUR FUTURE IN YOUR OWN BUSINESS
Elmer Winter

n. YOUR FUTURE IN CHEMICAL ENGINEERING
Raymond Feder

o. YOUR FUTURE IN CIVIL ENGINEERING
Alfred R. Golze

p. YOUR FUTURE IN COMPUTER PROGRAMMING
Sidney Davis

q. YOUR FUTURE IN THE CREDIT FIELD
M. R. Neifield, Ph.D.

r. YOUR FUTURE IN DENTAL ASSISTING
Jane Frost

s. YOUR FUTURE IN DENTISTRY
Dr. Allen Vershel

t. YOUR FUTURE IN TRANSLATING AND INTERPRETING
J. F. Hendry

u. YOUR FUTURE AS A MINISTER
William A. Floyd

v. YOUR FUTURE AS AN OPTICIAN
Hans S. Hirschhorn

w. YOUR FUTURE AS A DIETITIAN
The American Dietetic Association

x. YOUR FUTURE IN DIRECT SELLING
Foster E. Goodrich

y. YOUR FUTURE IN THE ELECTRONIC COMPUTER FIELD
Dause Bibby

z. YOUR FUTURE IN ELECTRONIC ENGINEERING
Sol Levine

a². YOUR FUTURE IN ELEMENTARY SCHOOL TEACHING
R. J. Shockley

b². YOUR FUTURE IN FASHION DESIGN
Members of the Fashion Group, Inc.

c². YOUR FUTURE IN THE FEDERAL GOVERNMENT
Stephen Gould

d². YOUR FUTURE IN FOOD TECHNOLOGY
George E. Brissey

e^2. YOUR FUTURE IN FOREIGN SERVICE
Robert F. Delaney

f^2. YOUR FUTURE IN FORESTRY
David Hanaburgh

g^2. YOUR FUTURE IN GEOLOGY
Joseph L. Weitz

h^2. YOUR FUTURE AS A GUIDANCE COUNSELOR
Thomas McDonough

i^2. YOUR FUTURE IN THE HIGH FIDELITY INDUSTRY
Bernard Newman

j^2. YOUR FUTURE AS A HOME ECONOMIST
Jeanne Paris

k^2. YOUR FUTURE IN HOSPITAL ADMINISTRATION
Weir Richard Kirk

l^2. YOUR FUTURE IN HOTEL MANAGEMENT
Roger Sonnabend

m^2. YOUR FUTURE IN INDUSTRIAL ENGINEERING
Ross W. Hammond

n^2. YOUR FUTURE IN INSURANCE
Armand Sommer and Daniel P. Kedzie

o^2. YOUR FUTURE IN INTERIOR DESIGN
Michael Greer

p^2. YOUR FUTURE IN INTERNATIONAL SERVICE
Robert Calvert, Jr.

q^2. YOUR FUTURE IN JOBS ABROAD
Elmer Winter

r^2. YOUR FUTURE IN JOURNALISM
Arville Schaleben

s^2. YOUR FUTURE IN LANDSCAPE ARCHITECTURE
John Frazier

t^2. YOUR FUTURE IN LAW ENFORCEMENT
Allen Z. Gammage

u^2. YOUR FUTURE AS A LIBRARIAN
Joan Dorn Clarke

v^2. YOUR FUTURE IN THE MARINE CORPS
Colonel Angus Fraser

w^2. YOUR FUTURE IN MARKETING
Norman B. Orent

x^2. YOUR FUTURE IN MEDICAL ASSISTING
Norma B. Chernok

y^2. YOUR FUTURE IN MEDICAL TECHNOLOGY
Grace Paul

z^2. YOUR FUTURE IN THE MERCHANT MARINE
Admiral Gordon E. McLintock

a^3. YOUR FUTURE IN METEROLOGY
Admiral Frederick A. Berry and Sidney Frank

b^3. YOUR FUTURE AS A MODEL
Gillis MacGil

c^3. YOUR FUTURE IN MUSEUMS
William Burns

d^3. YOUR FUTURE IN MUSIC
Robert E. Curtis

e^3. YOUR FUTURE IN NASA
Sol Levine

f^3. YOUR FUTURE IN NAVAL ARCHITECTURE
Harry Benford and J.C. Mathes

g^3. YOUR FUTURE IN THE NAVY
Thomas Burrowes

h^3. YOUR FUTURE IN NUCLEAR ENERGY FIELDS
William E. Thompson, Jr.

i^3. YOUR CALLING AS A NUN — A SENSE OF MISSION
Sister Mary Maureen

j^3. YOUR FUTURE IN THE NURSERY INDUSTRY
John J. Pinney

k^3. YOUR FUTURE IN NURSING
Virginia B. McDonnell, R. N.

l^3. YOUR FUTURE IN OCCUPATIONAL THERAPY
Frances L. Schuff

m^3. YOUR FUTURE IN OCEANOGRAPHY
Norman Gaber

n^3. YOUR FUTURE IN OPTOMETRY
James R. Gregg

o^3. YOUR FUTURE IN PERSONNEL WORK
John H. Pond

p^3. YOUR FUTURE IN PHYSICS
Raymond M. Bell

q^3. YOUR FUTURE AS A PILOT
Captain Kimball Scribner

r^3. YOUR FUTURE IN PHARMACY
James E. Kraemer

s^3. YOUR FUTURE IN PHOTOGRAPHY
Victor Keppler

t^3. YOUR FUTURE AS A PHYSICIAN
S. William Kalb, M.D.

u^3. YOUR FUTURE IN PRINTING
George Reinfeld, Jr.

v^3. YOUR FUTURE IN PUBLIC RELATIONS
Edward L. Bernays

w^3. YOUR FUTURE AS A RABBI — A CALLING THAT COUNTS
Rabbi Alfred Gottschalk

x^3. YOUR FUTURE IN RADIOLOGIC TECHNOLOGY
Sister Christina Spirko

y^3. YOUR FUTURE IN REAL ESTATE
Seymour Durst and Walter Stern

z^3. YOUR FUTURE IN RETAILING
George Scott

a^4. YOUR FUTURE IN SCHOOL PSYCHOLOGY
Robert Gelinas and Paul Gelinas

b^4. YOUR FUTURE AS A SECRETARY
Nell Braly Noyes

c^4. YOUR FUTURE AS A SHORTHAND REPORTER
Edward Van Allen

d4. YOUR FUTURE IN SOCIAL WORK
Bertram Beck

e4. YOUR FUTURE IN TELEVISION
J. Noel Deutscher

f4. YOUR FUTURE AS A TEMPORARY OFFICE WORKER
Elmer Winter

g4. YOUR FUTURE IN TRAFFIC MANAGEMENT
Robert Heine

h4. YOUR FUTURE IN THE TRUCKING INDUSTRY
Gerald Eskow

i4. YOUR FUTURE IN VETERINARY MEDICINE
Dr. Wayne Riser

j4. YOUR FUTURE IN ACCOUNTING
Edmond Locklear, Jr.

k4. YOUR FUTURE IN THE FASHION WORLD
Members of the Fashion Group, Inc.

237. Science Research Associates
259 E. Erie Street
Chicago, Illinois 60611

a. DISCOVERING YOURSELF 1969
Marjorie C. Cosgrove and Irma Unruh
Cost: $2.25

This booklet is designed to enable a student to find out more about himself and his self-concept. Various tools for self-exploration such as self-appraisal charts and quizzes are given. Hypothetical situations and stories are also given for students to consider how they would respond in a variety of settings. The publishers recommend this booklet for use in grades 7 through 9.

b. HANDBOOK OF JOB FACTS 1968
Norma Thiemann
Cost: $5.20

This book contains summaries of pertinent data for 300 major occupations. Concise information is given for each of these occupations concerning major duties of the occupation; main industries and areas in which the occupation is found; number of workers in the occupation; education and training necessary; special qualifications, including abilities, aptitudes, interests and character traits; how to enter the occupation; chances of advancement; earnings; and expected opportunities. Information about occupations, which is presented alphabetically in chart form, is easy to use.

This publication, which is designed for grades 9 through 12, may also be used by students in junior high. Every occupational orientation teacher could use this publication.

c. MY EDUCATIONAL PLANS 1970
Harold L. Munson
Cost: $2.42

This text will help the student to plan a realistic high school program through consideration of his interests, abilities, achievements, values and attitudes. He will also have an opportunity to appraise his progress to date. Fifteen self-appraisal inventories are included in this publication which is recommended for grades 7 through 9.

d. OCCUPATIONAL INFORMATION: THE DYNAMICS OF ITS NATURE AND USE 1964
Max F. Baer and Edward C. Roeber
Cost: $8.60

This publication gives a good description of different types of occupational information along with detailed instructions for ordering information. For instance, ordering information is given for materials which may be obtained from government sources, private publishers, professional and industrial societies, and trade associations and labor unions.

e. WHAT TO DO AFTER HIGH SCHOOL 1958
Charles G. Spiegler and William B. Reiner
Cost: $2.42

This publication is designed especially for students ranging from grades 9 through 12 who are not planning to attend a four-year college. Students are encouraged to evaluate themselves and to try to determine the types of jobs for which they might be suited. Various types of training offered and opportunities available in the world of work are considered.

238. Simon & Schuster, Inc.
630 5th Avenue
New York, New York 10020

a. LOVEJOY'S CAREER AND VOCATIONAL SCHOOL GUIDE
C. E. Lovejoy
Cost: $6.50

Pertinent information is given about vocational schools throughout the country.

b. LOVEJOY'S COLLEGE GUIDE
C. E. Lovejoy
Cost: $7.50

This book provides a wealth of information about colleges and universities throughout the country. It gives a description of each institution listed, degrees granted, and accreditation granted by regional and professional associations. The book also contains many helpful hints to assist the student in selecting the right school.

c. LOVEJOY'S SCHOLARSHIP GUIDE
C. E. Lovejoy
Cost: $4.95

This publication lists various scholarships which are available and gives information on how to secure scholarships.

239. South-Western Publishing Co.
5101 Madison Rd.
Cincinnati, Ohio 45227

a. YOU AND YOUR JOB 1967
Walter L. Blackledge, Ethel H. Blackledge, and Helen J. Keily
Cost: $2.08

This publication tells students how to go about finding and applying for jobs. Information concerning the job interview, letters of application, and summer employment is emphasized.

240. Vocational Guidance Manuals
235 East 45th Street
New York, New York 10017

Career Series
Cost: $1.95 each

This series of career books gives extensive coverage to specific occupations. A student who is interested in more in-depth study of an occupation may find these books helpful. Although teachers may not be able to purchase these books for their classrooms they may encourage the school librarian to purchase some or all of these books.

a. OPPORTUNITIES IN AN ACCOUNTING CAREER

b. OPPORTUNITIES IN ACTING

c. OPPORTUNITIES IN AN ARCHITECTURE CAREER

d. OPPORTUNITIES IN BUSINESS PAPERS

e. OPPORTUNITIES IN A CHIROPRACTIC CAREER

f. OPPORTUNITIES IN DENTISTRY

g. OPPORTUNITIES IN A DRAFTING CAREER

h. OPPORTUNITIES IN FOREIGN LANGUAGE CAREERS

i. OPPORTUNITIES IN FOREIGN SERVICE

j. OPPORTUNITIES IN A FORESTRY CAREER

k. OPPORTUNITIES IN FREE-LANCE WRITING

l. OPPORTUNITIES IN GEOLOGY

m. OPPORTUNITIES IN THE HOTEL AND MOTEL INDUSTRY

n. JEWISH RELIGIOUS VOCATIONS

o. OPPORTUNITIES IN JOURNALISM CAREERS

p. OPPORTUNITIES IN LANDSCAPE ARCHITECTURE

q. OPPORTUNITIES IN A LAW CAREER

r. OPPORTUNITIES IN LIBRARY CAREERS

s. OPPORTUNITIES IN LIFE INSURANCE SELLING

t. OPPORTUNITIES IN MUSIC CAREERS

u. OPPORTUNITIES IN MARKET RESEARCH

v. OPPORTUNITIES IN MATHEMATICS CAREERS

w. OPPORTUNITIES AS A MERCHANT MARINE

x. OPPORTUNITIES IN NURSING CAREERS

y. OPPORTUNITIES IN OFFICE OCCUPATIONS

z. OPPORTUNITIES IN AN OPTOMETRY CAREER

a^2. OPPORTUNITIES IN OSTEOPATHIC MEDICINE

b^2. OPPORTUNITIES IN THE PETROLEUM INDUSTRY

c^2. OPPORTUNITIES IN PHARMACY CAREERS

d^2. OPPORTUNITIES IN PLASTICS CAREERS

e^2. OPPORTUNITIES IN THE POULTRY INDUSTRY

f^2. OPPORTUNITIES IN PRINTING TRADES

g^2. OPPORTUNITIES IN PSYCHIATRY CAREERS h². OPPORTUNITIES IN PUBLIC RELATIONS

i². OPPORTUNITIES IN RADIO

j². OPPORTUNITIES IN RECREATION AND OUTDOOR EDUCATION

k². OPPORTUNITIES IN THE SECURITIES BUSINESS

l². OPPORTUNITIES IN SELLING

m². OPPORTUNITIES IN SOCIAL WORK CAREERS

n². OPPORTUNITIES IN THE STEEL INDUSTRY

o². OPPORTUNITIES IN TEACHING CAREERS

p². OPPORTUNITIES IN TECHNICAL WRITING

q². OPPORTUNITIES IN TEXTILE CAREERS

r². OPPORTUNITIES IN TRAFFIC ENGINEERING

s². OPPORTUNITIES IN TRAVEL CAREERS

t². OPPORTUNITIES IN VETERINARY MEDICINE

u². VOCATION AND PROTESTANT RELIGIOUS OCCUPATIONS

Filmstrips:

241. Guidance Associates
Pleasantville, New York 10570

a. CAREERS IN MATERIALS ENGINEERING: THE AREOSPACE AGE
Cost: $18.00

b. CHOOSING YOUR CAREER
Cost: $35.00

c. FOUR WHO QUIT
Cost: $35.00

d. GETTING AND KEEPING YOUR FIRST JOB
Cost: $35.00

e. HIGH SCHOOL COURSE SELECTION AND YOUR CAREER
Cost: $35.00

f. IF YOU'RE NOT GOING TO COLLEGE
Cost: $35.00

g. JOB HUNTING: WHERE TO BEGIN
Cost: $35.00

h. A JOB THAT GOES SOMEPLACE
Cost: $35.00

i. JOBS AND GENDER
Cost: $35.00

j. JOBS FOR HIGH SCHOOL STUDENTS
Cost: $35.00

k. A NEW LOOK AT HOME ECONOMICS CAREERS
Cost: $18.00

l. ON THE JOB: FOUR TRAINEES
Cost: $35.00

m. AN OVERVIEW OF TECHNICAL EDUCATION
Cost: $35.00

n. PREPARING FOR THE JOBS OF THE 70'S
Cost: 35.00

o. PREPARING FOR THE WORLD OF WORK
Cost: $35.00

p. SHOULD YOU GO TO COLLEGE?
Cost: $18.00

q. TROUBLE AT WORK
Cost: $35.00

r. WHAT YOU SHOULD KNOW BEFORE YOU GO TO WORK
Cost: $35.00

s. WHY WORK AT ALL?
Cost: $18.00

t. YOUR FUTURE IN ELEMENTARY EDUCATION
Cost: $18.00

u. YOUR JOB INTERVIEW
Cost: $35.00

v. YOUR PERSONALITY: THE YOU OTHERS KNOW
Cost: $35.00

Additional filmstrips from various companies are listed in **Audio-Visual Aids for Occupational Orientation and Vocational Guidance**, a publication prepared and distributed to occupational orientation teachers by the State Department of Education.

Tapes:

Tapes should be purchased very selectively. Rather than buying an entire series of tapes, you may consider procuring only those tapes of occupations in which a large number of students are interested.

242. Jasper Ewing and Sons
610 North State Street
Jackson, Mississippi 39205

or

Martin School Company, Inc.
303 E. Hamilton Street
Jackson, Mississippi 39205

"American Occupations" Series
by Educational Sensory Programming
Cost: $4.90 each tape (2 occupations) for reel or cassett

Each tape consists of two, 15 minute programs which describe the training, obstacles, and rewards of an occupation.

a. TOMORROW'S JOBS — PART I/TOMORROW'S JOBS — PART II 4501

b. ACCOUNTANT/ADVERTISING WORKERS 4502

c. MARKETING RESEARCH WORKERS/PERSONNEL WORKERS 4503

d. PUBLIC RELATIONS WORKERS/PROTESTANT CLERGYMAN 4504

e. RABBIS/ROMAN CATHOLIC PRIESTS 4505

f. FORESTERS/FORESTERY AIDS 4506

g. RANGE MANAGERS/EMPLOYMENT COUNSELORS 4507

h. REHABILITATION COUNSELORS/SCHOOL COUNSELORS 4508

i. ENGINEERING/TYPES OF ENGINEERING 4509

j. PHYSICIANS/OSTEOPATHIC PHYSICIANS 4510

k. DENTISTS/DENTAL HYGIENISTS 4511

l. DENTAL ASSISTANT/DENTAL LAB. TECHNICIAN 4512

m. REGISTERED NURSES/LICENSED PRACTICAL NURSES 4513

n. OPTOMETRISTS/PHARMACISTS 4514

o. PODIATRISTS/CHIROPRACTORS 4515

p. OCCUPATIONAL THERAPIST/PHYSICAL THERAPIST 4516

q. SPEECH PATHOLOGIST AND AUDIOLOGIST/MEDICAL LABORATORY WORKER 4517

r. RADIOLOGIC TECHNOLOGISTS/MEDICAL RECORD LIBRARIAN 4518

s. DIETICIANS/HOSPITAL ADMINISTRATOR 4519

t. SANITARIANS/VETERINARIANS 4520

u. MATHEMATICIANS/STATISTICIANS 4521

v. GEOLOGIST/GEOPHYSICISTS 4522

w. METEROLOGISTS/OCEANOGRAPHERS 4523

x. LIFE SCIENTISTS/BIOCHEMISTS 4524

y. CHEMISTS/PHYSICISTS 4525

z. ASTRONOMERS/ACTOR — ACTRESS 4526

a². DANCERS/MUSICIANS AND MUSIC TEACHERS 4527

b². SINGERS AND SINGING TEACHERS/COMMERICAL ARTISTS 4528

c². INDUSTRIAL DESIGNER/INTERIOR DECORATOR 4529

d². ANTHROPOLOGISTS/ECONOMISTS 4530

e². GEOGRAPHERS/HISTORIANS 4531

f². POLITICAL SCIENTISTS/SOCIOLOGISTS 4532

g². KINDERGARTEN AND ELEMENTARY SCHOOL TEACHER/SECONDARY SCHOOL TEACHER 4533

h². COLLEGE AND UNIVERSITY TEACHERS/ENGINEERING SCIENCE 4534

i² DRAFTSMAN/NEWSPAPER REPORTER 4535

j². TECHNICAL WRITERS/ARCHITECTS 4536

k². COLLEGE PLACEMENT OFFICER/HOME ECONOMISTS 4537

l². LANDSCAPE ARCHITECTS/LAWYERS 4538

m². LIBRARIANS/LIBRARY TECHNICIANS 4539

n². MODELS/PHOTOGRAPHERS 4540

o². SYSTEMS ANALYSTS/PROGRAMMERS 4541

p². PSYCHOLOGISTS/RECREATION WORKER 4542

q². SOCIAL WORKERS/SURVEYORS 4543

r². URBAN PLANNERS/MANAGERIAL OCCUPATIONS 4544

s². INDUSTRIAL TRAFFIC MANAGER/PURCHASING AGENT 4545

t². CLERICAL OCCUPATIONS/BOOKKEEPING WORKERS 4546

u². CASHIERS/ELECTRONIC COMPUTER OPERATORS 4547

v². OFFICE MACHINE OPERATOR/SHIPPING — RECEIVING CLERK 4548

w². STENOGRAPHER/SECRETARY 4549

x². TELEPHONE OPERATOR/AUTO PARTS COUNTER MAN 4550

y². AUTO SALESMAN/AUTO SERVICE ADVISOR 4551

z². INSURANCE AGENT — BROKER/MANUFACTURER'S SALESMAN 4552

a³. REAL ESTATE SALESMEN — BROKER/RETAIL TRADE SALESWORKER 4553

b³. SECURITIES SALESMAN/WHOLESALE TRADE WORKERS 4554

c³. BARBERS/COSMETOLOGISTS 4555

d³. COOKS — CHEFS/WAITERS — WAITRESSES 4556

e³. FBI SPECIAL AGENTS/POLICE OFFICERS 4557

f³. STATE POLICE OFFICERS/FIRE FIGHTERS 4558

g³. HOSPITAL ATTENDANTS/BUILDING CUSTODIANS 4559

h³. BRICKLAYER/CARPENTER 4560

i³. CEMENT MASON/CONSTRUCTION LABORER 4561

j³. ELECTRICIANS/ELEVATOR CONSTRUCTION 4562

k³. FLOOR COVERING INSTALLERS/GLAZIERS 4563

l³. LATHERS/MARBLE SETTERS 4564

m³. OPERATING ENGINEERS/PAINTERS AND PAPERHANGERS 4565

n³. PLASTERERS/PLUMBERS AND PIPEFITTERS 4566

o³. ROOFERS/SHEET METAL WORKERS 4567

p³. STONEMASONS/STRUCTURAL STEEL WORKERS 4568

q³. TRUCKDRIVER/LOCAL TRUCKDRIVER 4569

r³. ROUTEMEN/INTERCITY BUSDRIVER 4570

s³. LOCAL BUSDRIVER/TAXI DRIVERS 4571

t³. MACHINISTS/MACHINE TOOL OPERATOR 4572

u³. TOOL AND DIE MAKER/INSTRUMENT MAKER 4573

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